



**GRADUATE CATALOG**

2003-2005

**THE UNIVERSITY OF MARYLAND**

**EASTERN SHORE**

**THE GRADUATE SCHOOL**

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**DISCLAIMER**

The provisions of this publication are not to be regarded as an irrevocable contract between the student and the University of Maryland Eastern Shore. At the time of the publication, every reasonable effort was made to

attain factual accuracy in the material presented. The catalog is not intended to be a complete statement of all procedures, processes and regulations governing graduate or professional degree programs which may be covered in separate program and office manuals and handbooks. The University of Maryland Eastern Shore reserves the right to make changes in fees, course offerings and general regulations and academic requirements without prior notice.

For the most up-to-date information on course offerings, program requirements and deadlines, please write, call or e-mail the program or department to which you are applying.

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## **THE UNIVERSITY**

### **THE UMES MISSION**

The University of Maryland Eastern Shore (UMES) is the doctoral degree granting, research/teaching University on Maryland's Eastern Shore, and the 1890 Land Grant institution for the State of Maryland. UMES is a growing, primarily residential university with a teaching, research and extension mission consistent with its legacy as an 1890 Historically Black Land Grant institution. UMES emphasizes its commitment to equal educational opportunity, and strives to provide educational, research and public service programs to the state and region.

### **THE ACADEMIC PROGRAM**

The University of Maryland Eastern Shore is one of eleven degree-granting campuses of the University System of Maryland. It was founded in 1886 as the Delaware Conference Academy under control of the Methodist Church.

UMES offers major programs leading to baccalaureate degrees in 26 disciplines in the arts and sciences, professional studies and agricultural sciences. UMES has 13 teaching degree programs and nine pre-professional programs, as well as an Honors Program designed to prepare students for study in professional schools.

In graduate education, UMES offers graduate degrees in the following fields: at the M.S. and the Ph.D. level in the Marine-Estuarine-Environmental Sciences and in Toxicology; the Ph.D. in Food Science and Technology and in Organizational Leadership; the Doctor of Physical Therapy (DPT); the M.S. in Applied Computer Science, Criminology & Criminal Justice, Food and Agricultural Sciences and Rehabilitation Counseling; the M.Ed. in Guidance and Counseling, Special Education and Career and Technology Education; the Master of Arts in Teaching (MAT). An Education Leadership program (Ed.D.) begins in the Fall 2003 semester.

## **THE CAMPUS AND ENVIRONMENT**

Located in the small, historic town of Princess Anne, on the Eastern Shore of Maryland, UMES is located on 620 acres of land, with over 80 buildings. UMES offers a comprehensive and varied academic program as well as a well-designed campus.

As UMES enters its third century of instruction, it continues with plans for additional office-classroom-laboratory buildings, an improved physical plant and an expanded graduate curriculum.

UMES offers suitable facilities on campus for its graduate programs such as well equipped, state-of-the-art laboratories and instrumentation, computing and telecommunications capability and networking, and resource centers.

Behind the East Campus are over 500 acres of farmland. Innovative agricultural, environmentally related, and aquaculture research, serving both local and global economies, is conducted by several institutes, centers and programs.

Programs in the marine, estuarine and environmental sciences and in the agricultural sciences also benefit from the Eastern Shore of Maryland as a field laboratory with its diverse natural resources: the land, the ecosystem of the Chesapeake Bay estuary and the Atlantic Coast, state forests and parks, and a National Seashore (at Assateague Island). There is easy access to outdoor recreation opportunities such as camping, fishing and water sports. Within a several hour drive are the resources of Maryland's Western Shore and the federal sector located in the Washington, D.C.-Baltimore-Northern Virginia corridor.

UMES graduate programs in education fields, computer science, physical therapy, criminology & criminal justice and rehabilitation counseling serve and address community and regional needs for professionals and technical specialists.

The international dimension of the UMES campus can be evidenced by the flags of over 50 nations that fly, on a rotational basis, at the campus entrance. These flags are a reminder of the various nationalities of students enrolled at UMES.

### **GRADUATE STUDIES GENERAL INFORMATION**

The University of Maryland Eastern Shore's Graduate School believes that it can best serve societal needs and respond to the challenges of graduate education through its commitment to time-honored principles. Accordingly, the major role of the UMES Graduate School is to provide for the education of students in the scholarly methods of intellectual inquiry and critical analysis; to train them in the discipline and skill necessary for beneficial research, applications and practice; and to foster in them a dedication to creative thought and the search for knowledge. The UMES Graduate School promotes the freedom and intellectual environment necessary to stimulate research and scholarship of the highest quality for both students and faculty.

In terms of governance, each campus of the University System of Maryland is administered by a President who is responsible for all academic programs. The delegated administration of the graduate programs at UMES, within the office of the Vice President for Academic Affairs, is to the Dean of the School of Graduate Studies. A Graduate Faculty Assembly and Graduate Council on the campus provide the organization by which the Graduate Faculty discharges its responsibilities for the quality and scope of graduate studies and research, embodied within the Graduate School.

## **GOVERNANCE**

### **The Graduate Faculty**

The Assembly of the Graduate Faculty consists of all regular and associate members of the Graduate Faculty who, through their participation in research and graduate instruction, have displayed a capacity for individual research or creative and scholarly work at the highest levels.

The Graduate Faculty, working through the Assembly and the Graduate Council, establishes policies governing admission to graduate study and the minimum requirements to be met by all students seeking advanced degrees awarded by the Graduate Faculty at the University of Maryland Eastern Shore. The faculty of the various departmental graduate programs may set additional requirements for the admission to specific programs or for the

completion of degrees within those programs, which are beyond the minimum established by the Graduate Council.

### **The Graduate Council**

The Graduate Council consists of members of the Graduate Faculty elected by the Assembly, as well as appointed and ex-officio members. It is charged with formulation of policies and procedures for the graduate programs at UMES. These include, but are not limited to, admission standards, review of new programs and courses submitted by members of the Graduate Faculty of a department, review of the UMES Graduate Faculty membership, standards pertaining to graduate student theses and dissertations and the periodic review of all graduate degree programs.

### **Graduate Students**

Student opinion and participation in determining matters of policy, procedure, and administration are appreciated and encouraged. In addition to their election to the Graduate Council, graduate students may also serve on departmental and campus committees.

### **National/Regional Organizations**

The University of Maryland Eastern Shore maintains membership in national organizations such as the Council of Graduate Schools and the National Association of State Universities and Land Grant Colleges.

## **ACCREDITATION**

The campus is accredited by the regional accreditation agency, the Middle States Association of Colleges and Schools. UMES has professional accreditation applicable to its graduate programs in physical therapy and rehabilitation counseling. The campus is also pursuing professional accreditation from the National Council for the Accreditation of Teacher Education.

## **ADMISSION TO GRADUATE SCHOOL**

### **General**

Responsibility for admitting applicants to graduate programs rests with the Dean of Graduate Studies in consort with the advice of the departmental program coordinators and graduate admission committees for each graduate program. Standards applied by the UMES Graduate School and the departmental programs are to ensure that students admitted have high qualifications and a reasonable expectation of successfully completing a graduate program. In order to maintain programs of outstanding quality, the number of spaces in each program may be limited by the availability of faculty, and departmental and campus resources. There is a 30% ceiling on out-of-state (including international) admissions and enrollment.

Graduate credit for courses will not be given unless students have been admitted to the UMES Graduate School or have its consent if a UMES senior according to the pertinent policy set in the Graduate Catalog.

### **CRITERIA FOR ADMISSION**

(Masters and Doctoral)

Those who have earned or will earn a Bachelor's or Master's degree at an accredited college or university in the United States or the U.S. credit hours equivalent of a Bachelor's or Master's degree from another country will be considered for admission to the UMES Graduate School.

Students may apply for admission to UMES during or after their final year of undergraduate or graduate study, but must furnish proof of degree award before the end of their first term of enrollment at UMES.

Students applying for admission to a Master's or doctoral degree program in a field of specialization in which they already hold a Master's or doctoral degree or its equivalent, may do so only if the previous degree program was of a substantially different character or was not accredited.

Admission is open to non-U.S. citizens (permanent residents, immigrants or non-immigrants). There is no separate application process for them.

The decision to admit an applicant to a program is based primarily on a combination of the following criteria, which are consistent with requirements of the specific graduate programs:

#### 1. The quality of previous undergraduate and, as applicable, graduate work.

The UMES Graduate School requires as a minimum standard a B average or 3.0 cumulative Grade Point Average (GPA) on a 4.0 scale, in a program of study resulting in the award of a baccalaureate degree from a regionally accredited U.S. college or university, or the credit hours equivalent of a Bachelor's degree from another country. Graduate admissions committees look closely at courses studied and grades earned in the major area of study. The student's undergraduate program should include completion of any prerequisites for graduate study in the chosen field. In individual programs where resources are available, applicants who do not meet the above minimum standard for their undergraduate work, may be provisionally-admitted if there is evidence, on the basis of other criteria, of a reasonable likelihood of success in the program the applicant desires to enter. Doctoral program applicants will also submit Master's program transcripts.

#### 2. Strength of letters of evaluation (recommendation).

Three letters of evaluation are required from persons competent to judge the applicant's probable success in graduate school. Usually these letters are from the applicant's former instructors who are able to give an in-depth evaluation of the applicant's strengths and weaknesses with respect to academic work. For applicants who have been out of school for a number of years, evaluations may come from employers or supervisors who are familiar with the applicant's work experience and strengths and weakness. Applicants should instruct their references to send the letters of evaluation to the Graduate School.

#### 3. Scores on a nationally standardized examination (as may be required by a program).

Because the predictive utility of these scores may vary from one group of applicants to another, a discriminating use of all relevant materials will be made in each applicant's case. The most widely used standardized



examinations at UMES are the Graduate Record Examinations and the PRAXIS (formerly the National Teachers Examination).

#### 4. A Statement of Purpose.

The Statement of Purpose form is used by the applicant to explain why he or she wishes to pursue graduate study at UMES; his or her career objectives and/or research interests which are pertinent to the intended program of study. This statement helps the specific graduate program to identify applicants whose purposes are compatible with the objectives of the graduate program.

#### 5. Other evidence of preparation.

Individual programs may require a personal interview, a writing sample essay or evidence of prior work experience in the field of study.

### **Policy On Applicant Rejection**

UMES may review a number of different factors to determine whether to admit an applicant to a graduate program, including but not limited to academic achievement, personal and professional references, scores on admission examinations, writing samples, personal interviews, character and integrity, personality, and potential to perform as a graduate student and as applicable to a profession. Applicants should consider licensing/registration/credential requirements of a profession in which past personal history or conviction/criminal record may restrict completion of a degree program (the professional phase) and the eligibility to practice in a profession if graduated from a program.

### **GRADUATE RECORD EXAMINATIONS (GRE)**

Although not all graduate programs at UMES require the GRE, almost all will use such test scores as an additional measure of an applicant's qualifications. The GRE may be taken in either or both of two forms: the General Test, and the Subject Test. Applicants can take the test(s) in their senior year or when submitting the application for admission. Note that some programs may require the GRE test scores prior to an admissions decision. For

details, applicants should write directly to Graduate Record Examinations, Educational Testing Service, Box 955, Princeton, New Jersey 08540. Applicants should note that the GRE testing program underwent major revision in 2002. The change in the General Test is the replacement of the analytical measure with the analytical writing measure (the latter in existence since 1999). Applicants should take the General Test package appropriate for the program to which they are seeking admission.

For information on the UMES graduate programs requiring the GRE, consult the specific graduate program in this catalog.

Official examination scores should be sent directly to the Graduate School. The UMES institutional code for the GRE is 5400. Photocopies of test score results are acceptable for initial review, but not for Regular Admission status should the test score(s) be required by the program.

### **CATEGORIES OF ADMISSION TO DEGREE PROGRAMS**

#### **Regular or Full Graduate Status**

For admission to this category, an applicant must have received a baccalaureate degree, and if applicable a master's degree, from a regionally accredited institution or the U.S. equivalent of a bachelor's and/or master's degree in another country, and be otherwise fully qualified in the judgement of the individual program and the Graduate School.

## Provisional Graduate Status

This designation may be used by the graduate program: 1) when quality of the previous academic record at a regionally-accredited institution in the U.S. or abroad is lower than established standards (see Criteria for Admission section above, item 1.) or when there is a lack of adequate prerequisite course work in the chosen field; 2) when applicants have majored in another program area with a creditable record but there is some doubt about their ability to pursue the chosen program of study; 3) when the applicant is engaged in undergraduate or graduate study at another institution but is not able to furnish a transcript indicating completion of course work or degree requirements; or 4) when the applicant has completed a baccalaureate or master's degree but has not yet submitted official verification of the last semester's work and receipt of the degree. Final official transcripts indicating receipt of the degree must be submitted before the end of the first semester of enrollment at UMES.

Conditions to correct any deficiencies in preparation for graduate study at UMES will be outlined by the faculty. Full-time matriculated students are expected to remove condition(s) for provisional admission within the time period stated on the admission recommendation form, normally within the first year of matriculation depending upon the program (e.g., the first two consecutive semesters which might include the adjacent summer). Part-time matriculated students are expected to remove condition(s) of provisional admission no later than the end of the second year of matriculation (the fourth semester which might include the adjacent summer, depending on the program).

When all conditions have been met, the program may recommend admission of the student to full or regular status. This statement also applies to any conditions set by the Graduate School, e.g., degree award, final/original transcript, etc. Regular status is required to obtain the degree. Students who are unable to qualify for full admission under the conditions specified, e.g., by failure to fulfill them, will have their admission terminated.

## Advanced Special Student Status

The Advanced Special Student Status is designed for individuals who do not have an immediate degree objective in mind, but wish to take graduate level courses for personal or professional enrichment. Although the primary mission of the UMES Graduate School is to conduct programs of graduate instruction leading to advanced degrees, the Graduate Faculty welcomes, to the extent that resources allow, qualified students who have no degree objectives. Unofficial transcripts or photocopies of degrees will be accepted with the application for evaluation purposes, but by the end of the first semester of enrollment, the student must submit official copies of all required documents. Official transcripts must be submitted from all institutions attended except for the University of Maryland Eastern Shore; the Graduate Studies office obtains the UMES transcript. Since Advanced Special students enroll in the same classes as degree-seeking students and are subject to the same course prerequisites, standards for admission to this status cannot be lower than what the degree programs would allow for regular or provisional admission.

Applicants for admission to Advanced Special Student Status must hold baccalaureate degree and satisfy at least *one* of the following criteria:

A. Hold a baccalaureate degree from a U.S. regionally accredited institution or the U.S. credit hours equivalent of this degree from another country, with an overall "B" (3.0) average. Applicants must submit official transcripts covering all credits used in satisfying the baccalaureate degree requirements;

B. Hold a Master's or Doctoral degree from a regionally accredited institution, or the equivalent of these degrees from another country. Applicants must submit an official transcript showing the award of a Master's or Doctoral degree;

C. Hold a baccalaureate degree from a regionally accredited institution or the U.S. credit hours equivalent of this degree from another country, a cumulative GPA between 2.5 and 2.99 and have successful post-baccalaureate work or professional experience. Applicants must submit an official transcript showing the award of the baccalaureate degree, and

summarize their post-baccalaureate work or professional experience on the Maryland In-State Status form (if eligible for residency) or submit a resume;

D. Achieve a score which would place an applicant in the upper 50 percentile of appropriate national standardized aptitude examinations such as the GRE or Miller's Analogies Test.

Admission to Advanced Special Student status is granted by the Dean of Graduate Studies for a period of five years. Advanced Special Students must meet course prerequisites and maintain a 2.75 cumulative grade point average. There are restrictions on graduate courses in which Advanced Special Students may not enroll (e.g., Physical Therapy and the MAT programs). Heavy enrollment programs such as Applied Computer Science require that Advanced Special Students who will earn six credit hours in Applied Computer Science courses with a grade of B or better must apply to the graduate program in Applied Computer Science before taking any further courses in Applied Computer Science if they seek that graduate program. Registration for Advanced Special Students in the Applied Computer Science program will be restricted.

Advanced Special Students must pay all standard graduate fees. Students in this status are not part of any of the UMES graduate programs, and therefore are not eligible to hold any Graduate Assistantships or Fellowships or receive similar forms of financial aid. All other services, e.g., parking, library privileges, etc., are the same as those accorded to other graduate students.

Admission to Advanced Special Student status is not intended to be used as a preparatory program for later admission to a Doctoral or Master's program. Only six credits earned while in this status may be applicable to a degree or certificate program at a later time, with the approval of the faculty in the desired program, if the student is subsequently accepted for a degree or certificate program. For consideration of admission to a degree or certificate program, a student must submit the application for degree program form and meet all admission requirements, including an overall grade point

average of 3.0 among the graduate courses taken at UMES.

Because Advanced Special is a non-degree status, it is not applicable for international applicants on a F-1 (student) visa. Advanced Special is allowable for F-2 visa holders (dependents) and may be allowable in some instances for other visa holders (e.g., J-1).

The application deadline for consideration of Advanced Special Student Status is no later than ten (10) school days prior to the registration date set for each semester or session.

### **Visiting Graduate Student Status**

A graduate student matriculated in another graduate school who wishes to enroll in the UMES Graduate School and who intends, thereafter, to return to the graduate school in which he/she is matriculated, may be admitted as a Visiting Graduate Student. (**NOTE:** This section does not apply to graduate students matriculated within the University System of Maryland campuses, who should follow the provisions given in a later section on the "Inter-Campus Enrollment"; however, inter-institutional enrollment for Salisbury University and UMES students follows the section below on "Collaborative Programs with Salisbury University".)

Criteria for enrollment as a visitor are admission to and good academic standing in another recognized graduate school. The applicant need not submit full transcripts of credits, but must apply for admission to the UMES Graduate School (the application form for non-degree) and pay the application fee. In lieu of transcripts, a student may have his/her graduate administrator certify in writing to the UMES Graduate School, that the student is in good standing and that the credits to be earned at UMES will be accepted toward the graduate degree at the home institution. Unless otherwise specified, admission to this status will be offered for one year only.

The application deadline for consideration under this status is one month prior to the registration date set for each semester or session for full-time study, and ten (10) school days for part-time study.

## **Collaborative Programs with Salisbury University**

Students matriculated into a graduate program at either Salisbury University (SU) or UMES follow modified procedures for the Visiting Graduate Student Status to enroll in classes at either institution. Students need only a letter from the graduate administrator at either campus stating that the student is matriculated and in good academic standing at the home campus, with a copy of the student's original application form processed at the home campus. There is no additional application fee. Students use the inter-institutional enrollment process for any semester or session class taken with the host institution. For the joint MAT graduate program, there is a uniform tuition rate between SU and UMES.

### **Non-degree Student Status - Undergraduate**

This is an undergraduate classification. It may be assigned by the Director of Admissions (undergraduate division) to those applicants who have received the baccalaureate or an advanced degree from a regionally-accredited institution but who do not desire, or who do not qualify for graduate admission. Non-degree seeking students who do not have a baccalaureate degree or an R.N. must submit transcripts and meet regular admission standards. Transcripts are not required from students with baccalaureate degrees or an R.N.

Application for "Non-degree Student Status--Undergraduate" (Special Student) must be made directly to the Office of Admissions, not to the Graduate School.

The student is advised that no credit earned while in a "Non-degree Student Status-Undergraduate" may be applied at a later date to a graduate degree program at UMES.

## **Continuing Education Students**

Students who wish to register for graduate level courses through Continuing Education must first make application to the UMES Graduate School and be officially admitted. The application guidelines to be followed will generally be those for the Advanced Special Student Status. Continuing Education students must pay all applicable fees (application fee, the off-campus/continuing education registration fee and the graduate tuition).

### **Offer of Admission; Deferments**

A written offer of admission is made by the Graduate School to all accepted applicants and specifies the date of entrance (semester or session). Graduate credit for courses taken at UMES will not be given unless students have been admitted to the UMES Graduate School.

Individuals whose original offers of admission have lapsed, or lapsed after one requested deferment of the date of entrance (up to a 12-month period), must submit a new application and fee if they want to be reconsidered for admission at a later date.

The offer of admission is also a permit to register for courses and must be presented by the student at the time of the first registration.

Applicants who are unsuccessful in gaining admission to a graduate program are notified in writing, usually by the program. The Graduate School informs non-degree applicants who are unsuccessful in gaining admission.

A student can be admitted to only one graduate program at any one time. Applications may be sent to more than one graduate program for review, but only one offer of admission to one degree program will be granted.

### **Admission Time Limits for Degree Programs**

Applicants admitted to a Master's degree program must complete all program requirements within a five-year period of the date of entrance specified in the offer of admission or deferred admission. Applicants admitted to a doctoral degree program must be admitted to candidacy status within five years of the date of entrance specified in the offer of admission, after which another four-year period

is permitted for the completion of the remaining requirements.

### **Change of Degree-Level, Program or Status**

Students are admitted only to a specified program and within that program only for the specified objective, e.g., Master's or Doctoral degree. If matriculated students wish to change either the program or their non-program status (for example, from Advanced Special Student to degree status), they must submit a new appropriate application along with the Change of Degree Program form if applicable and provide any other form or information as specified. Admission to the new program and/or status is not granted automatically.

Students must be re-admitted when the original objective has been attained, for example, when a student who is admitted for the Master's degree completes the requirements for that degree. If the student wishes to continue for the Doctorate, a new application for admission to the Doctoral program must be submitted. However, programs, which offer both the M.S. and the Ph.D. degrees, may consider qualified baccalaureate students for a probationary period before full admission into the Ph.D. degree program. Their requests for admission to the Doctoral program are subject to the same review process applied to others seeking admission to that program.

### **Termination of Admission (Time Limits; Grades - GPA; Academic Probation and Dismissal; Academic Suspension)**

A student's admission terminates when time limits for the completion of degree or non-degree status expire or if the student is no longer in good academic standing. To be in good academic standing, degree seeking students must maintain a grade point average of 3.0 ("B") or better in all graduate courses taken for credit toward a degree program at UMES, and must otherwise satisfy all additional requirements of the Graduate School and the specific graduate program. This makes them eligible to re-enroll each semester/session without restriction.

For most programs, graduate students who receive academic probation notices from the Graduate School must comply with the following requirement in order to retain their

admission status at UMES. They have two consecutive semesters in which to bring their grade point average back to 3.0 ("B") after it falls below that level. Some graduate programs may stipulate additional or more stringent academic probation and dismissal criteria (see also section on 'Grades for Graduate Students').

Academic suspension temporarily interrupts a student's continued enrollment for a specific time period, but allows the student to return to his admitted status. Academic dismissal is a termination of admission. It may be a permanent separation, or if a graduate program allows, a separation for a time period, removed only by review by the program and acceptance of the case for reinstatement. Reinstatement involves special conditions to be met by the returning student.

The admission of all students, both degree and non-degree, is continued at the discretion, as applicable, of the academic advisor, the department chair and program coordinator and the Graduate School.

### **Readmission/Reinstatement Process**

The Graduate School form "application for Readmission or Reinstatement" contains information on the process of seeking readmission or reinstatement. The student completes the front and backside of the form, provides any additional material needed and submits all to the graduate program for review and recommendation to the Graduate School for final action.

### **Policy on Dismissal for Non-Academic Reasons**

UMES reserves the right to dismiss or fail to graduate any student who does not maintain standards of academic and professional integrity, ethics, and conduct appropriate to the discipline/degree program during the student's course of study at UMES, including clinical experiences, practica, and internships. Students should also consider licensing, registration, credential requirements of a profession in which past personal history or conviction and criminal record may restrict completion of a degree program (the professional phase) and the eligibility to practice in a profession if graduated from a program.

## **Admission of Faculty**

No member of the faculty employed by UMES with the rank of assistant professor or above is permitted to enroll in a graduate program leading to an advanced degree offered in his or her academic school. A faculty member who wishes to take course work for personal enrichment in his or her academic school may choose the Advanced Special Student status. A faculty member with rank of assistant professor or above who wishes to pursue an advanced degree (e.g. Doctorate) in a UMES graduate program outside of his or her academic school may do so by obtaining written permission from the Dean of the Graduate School, subsequent to obtaining written consent from the Deans of both the academic school in which he or she is employed and from which he or she seeks a degree.

Departments employing faculty below the rank of assistant professor must monitor and seek to avoid possible conflict of interest situations in cases of faculty appointments which will involve a dual role, as a teacher/researcher in the department and a matriculated graduate student in an advanced degree program housed in the department to which the faculty member is attached.

## **APPLICATION INSTRUCTIONS**

### **Application Forms and Materials**

For a copy of the application for graduate admission booklet, write, call or e-mail the Graduate School. There are separate application forms for degree program and for non-degree status. Applicants should submit materials as instructed per type of application form. For further explanation of the graduate application and admissions process in this Catalog, including summary checklists, refer to the pages 1-9 of the UMES Application for Graduate Admission 2003 booklet. There is also an electronic application through the University System of Maryland's web-site ([www.caff.usmh.usmd.edu/gradapp/](http://www.caff.usmh.usmd.edu/gradapp/)). The introductory narrative in the UMES application for graduate admission booklet (latest annual release) is also useful background information for those submitting the electronic application.

### **The Initial Application Process**

To apply for a degree program, applicants must send: 1) completed application form along with the completed Statement of Purpose form and any other applicable attachment forms in the booklet; 2) official transcripts covering all credits earned or in progress at any post-secondary institution; and 3) letters of evaluation. The materials are sent to The Graduate School, University of Maryland Eastern Shore, Princess Anne, Maryland 21853.

Applicants are advised to carefully follow the instructions in the application booklet and to respond to all applicable requests for information. Some programs may have a supplemental information form or checklist to be completed and submitted with the application. Incomplete application forms (i.e., insufficient information or responses) will delay the start of the admissions review process.

The Graduate School forwards all materials received to the appropriate Graduate Program Coordinator to start the application review process by the program's Admissions Committee. It is important, then, for applicants to arrange to have all application materials requested to arrive around the same time period in order to facilitate, rather than delay, the admissions review process. The Graduate School and the Graduate Program involved jointly track the application materials received.

Applicants, however, are solely responsible for making certain that their transcripts, letters of evaluation/recommendation and any applicable application attachment forms have, in fact, been received. No follow-up action can be taken by the UMES Graduate School for missing or misdirected or incomplete items.

### **Transcripts**

Each applicant must submit official copies of all of his/her academic transcripts for undergraduate and graduate work taken to date, regardless of whether a degree was awarded for the study. Each transcript should bear the signature of the registrar and the seal of the granting institution and should include the years of attendance, courses taken, grades received, and the degree, diploma or certificate conferred. If you attended UMES, the UMES Graduate School will obtain your records for courses

completed on this campus and the degree awarded. To facilitate the application process, an official copy of transcripts from all other institutions should be attached to the application.

Although photocopies of credentials or unofficial (student issued) transcript copies are acceptable for initial review, regular admission status cannot be granted, nor will any degree be awarded, until the UMES Graduate School has received official copies of all academic credentials certified by an administrative official of the school, college or university (excluding UMES graduates - see the preceding paragraph).

Holders of transcripts of post secondary study and degrees earned outside the United States are subject to the information requested in the section on Academic Credentials of international applicants.

### **Application Deadlines**

**It is the applicant's responsibility to check the individual program to which he/she is applying for any specific application deadline, including those for international applicants.** Except for programs which have only one application deadline per year, all other programs have Fall, Spring or Summer deadline dates. If an applicant misses one of these deadlines, his/her application may be considered for the next available admissions cycle.

It is also to the applicant's advantage to be timely if he/she wishes to be considered for fellowships and graduate assistantships (admission to a program required) or other forms of financial support. Applicants should consult the "Financial Assistance" section for application deadlines for federal financial support.

Non-degree program applicants (e.g., Advanced Special and Visiting Graduate Students) should submit applications according to the schedule given in those admissions sections.

If all completed degree program application materials, as requested, do not arrive simultaneously, the Graduate School, for internal processing purposes, desires the order of receipt to be the application and attachment forms, the official transcripts, standardized exam test scores and lastly, the letters of evaluation (recommendation). **However, by the stated application deadline date, the application is**

**complete only if all materials have been received.** The graduate programs' Admissions Committees normally will not begin review of applications unless each application package is complete.

Faculty who comprise the program admissions committees may not always be available over the Summer months. Applicants for consideration of a Fall admission should note that if they do not meet the program's Fall application deadline or have their application complete by that deadline, they may not be able to be admitted in a timely manner or may be referred to a Spring admission.

### **Application Fee**

A non-refundable application fee of \$30.00 [**subject to change**] must accompany each application. **NOTE:** the governing policy for, and any allowable waiver of the application fee, is found in the subsequent section on "Graduate Fees". Payment should be made by check or money order payable to the University of Maryland Eastern Shore, or by cash only if presented in person. See application for Graduate Admission booklet (latest issue) for specifics on this section. The electronic application allows use of the credit card.

### **Calculation of Grade Point Average (GPA)**

Applicants with degrees from U.S. institutions or foreign institutions with a grading system comparable to the U.S. must be certain to calculate and convert their grade averages to a four-point (4.0) grading system, and at three levels, for credits included in the baccalaureate program, unless their transcripts already provide the GPA calculated data. See the instructions below for specifics on the calculation. The Graduate School will determine an equivalent cumulative GPA for foreign applicants with educational systems different from the U.S.

The GPA levels are: 1) overall; 2) credits earned after the first 60 credits up to the date of their application or the date of the award of the baccalaureate degree, whichever is later; and 3) those credits which constitute the major field. For work taken beyond the bachelor's degree, a separate computation should be made. All results are entered into the spaces provided for the GPA on the application form. All grades

are to be calculated on a four-point grading system, shown below, regardless of the grading system used at the institution attended. Pass/fail, satisfactory/failure, completed credit and similar grades are not to be included in the calculations. All numerical, alphabetical or equivalent grades, except as already noted, must be calculated as follows:

Convert all hours to semester hours (one-quarter hour equals 2/3-semester hour or one-semester hour equals 1½ quarter hours). Count the number of credit hours for each grade. Multiply the total credits for each grade by the number of (quality or honor) points for each as follows: A = 4; B = 3; C = 2; D = 1; and F = 0 (intermediate marks, e.g., B+, C-, are assigned in the value of the letter grade, e.g., B+ = 3, C- = 2). Then divide the total grade points by the total number of credits to obtain the GPA.

### **Termination of Application Process**

Deliberate omission, misrepresentation or falsification of information on the application for degree program or non-degree application form and accompanying application forms, and altered credentials (transcript, test score) will terminate the admission process for the applicant. If any of these problems surface after the applicant has been admitted, that student's admission status may be terminated.

### **Status of Application**

Refer to this subsection in the latest issue Application for Graduate Admission 2003 booklet. This subsection is applicable to domestic and international applicants.

## **INTERNATIONAL STUDENT APPLICATION PROCESS**

International applicants seeking admission to the University of Maryland Eastern Shore should not plan to leave their country before receiving an official offer of admission from the Graduate School. The Graduate School undertakes a preliminary review and evaluation of the international applicant's materials (academic credentials and application completeness) prior to their submission to the graduate program.

## **Academic Credentials**

For foreign nationals, the completed application and fee, letters of evaluation and official academic credentials for all undergraduate and graduate (tertiary level) institutions attended/being attended, should all be received by the UMES Graduate School by the appropriate international deadline date (if given) or the specific program deadline date (if a fixed date).

Official academic credentials (transcripts, mark sheets, diplomas, degrees) are to be in the original language with certified literal English translations (i.e., certified as to being complete and correct by a translator competent to provide the translation). Translations should not be interpretive. Actual names of all degrees, diplomas and certificates must appear in the translation. The name of the individual on the credentials must match that on the application. Photocopies of credentials are acceptable for initial review purposes only. Official credentials (original documents) from non-U.S. institutions must bear either an imprinted seal, an original stamp of the institution or the original signature of a school registrar. Official documents should include the courses completed, the amount of time taken per course, grades and the grading system. Public documents signed by a notary public are considered unofficial. Official credentials must be received by the Graduate School before regular (or full) admission status is granted. Students enrolled at another U.S. institution may have certified copies of all foreign records sent directly to the UMES Graduate School by their current institution. Transcripts of their U.S. coursework must be sent directly from the institution.

Only applicants who have completed a full sequence of preparatory studies and examinations equivalent to an U.S. bachelor's (normally four years and 120 credit hours of study) or higher degree from an approved institution, and who have demonstrated high academic achievement, will be considered for admission. Evaluation of applicant credentials for admission, conducted by professional associations in this field, are acceptable to the UMES Graduate School.

## **English Proficiency Testing**



When applicants are ready to begin their studies, they will be expected to read, speak and write fluently in English, in order to understand lectures, take examinations and participate in seminars and presentations. Applicants should be aware that UMES does not offer any program of English for non-native speakers of English to improve their proficiency.

Native speakers of English are defined as those who have received all of their education in the United States, United Kingdom, English-speaking Canada, Ireland, Australia, New Zealand and Commonwealth Caribbean. International applicants who are non-native speakers of English (not their first language or the language of instruction at all levels of schooling) must demonstrate a proficiency in the English language by taking the Test of English as a Foreign Language (TOEFL) and scoring 550 or better (paper test) or 213 or better (computer test), or by providing evidence of an equivalent official testing in the English language with an acceptable score. Possible exceptions may be non-native speakers who have successfully pursued full time academic work leading to a post-secondary degree or diploma in an English speaking country (see preceding paragraph), where English was the language of instruction. The TOEFL requirement is waived for an international student awarded a baccalaureate degree from UMES or a graduating senior at UMES who will have completed at least four years of undergraduate study at a U.S. college or university.

Because TOEFL is given at selective times a year throughout various parts of the world, as soon as students contemplate study at UMES, they should make arrangements to take the test. For test information, write to TOEFL Director, Educational Testing Service, Box 899, Princeton, New Jersey 08540. Standardized test scores are considered valid within a 24-month period of the examination. When requesting official TOEFL score reports to be sent to the Graduate School, please refer to the UMES institutional code: 5400. A copy of an applicant's "examinee's score record" may be sent with the application for evaluation purposes only (note that the data on this record will be verified with ETS). The official score from ETS

must be received for the applicant's permanent file.

Applicants found to be deficient in English and required to improve their English proficiency do so at their expense. Any course(s) or exams taken for this purpose will not count for degree credit.

### **Financial Resources**

To meet immigration requirements, each international applicant must furnish a completed Certification of Finances form to the Graduate School with the application, signed by him/her and the sponsor. Approximately \$ 16,000 annually is an average for educational and living expenses. Evidence of funding (in U.S. dollars) for the first year must be provided with an indication of how financial support will be provided for subsequent years (normally up to two years for a master's program and up to three to four years for the Ph.D.).

International students are ineligible for need-based federal and state financial aid programs. International applicants may not refer to assistantships, fellowships and campus employment as a source of financial support since a student must be admitted to the Graduate School before being eligible for these scarce financial resources. Applicants unable to demonstrate that they possess adequate financial self-support for their graduate study, including health insurance, will not be admitted.

The Certification of Finances form is to be updated and resubmitted if there is a request for deferment of the original admission.

### **Immigration Documents**

International applicants admitted to graduate study will be issued the INS Form I-20 from the UMES Office of Admissions and Registration for obtaining the most frequently granted student visa (F-1) for entry into the United States for the purpose of pursuing full time study. International applicants should not plan to leave their home country before obtaining an official offer of admission. International students already studying in the U.S., who wish to transfer to UMES, must provide copies of the I-20, I-94 and passport visa stamp to the office of Admissions and Registration. The Immigration and

Naturalization Service is then requested to grant permission for the transfer. UMES handles only the F-1 student visa and J-1 exchange visitor status (for the J-1, See the Graduate Dean).

### **Reporting Upon Arrival**

Every admitted international graduate student is expected to report to the campus International Student Advisor as soon as possible after arrival at UMES. The advisor will inform them about campus and community services and assistance, which are available to international students.

### **RECORDS MAINTENANCE AND DISPOSITION**

All records, including academic records from other institutions, become part of the official file of the Graduate School and can neither be returned nor duplicated for any purpose. Students should obtain an additional copy of their official credentials for their personal use.

The official credentials and the application data of applicants are retained for 18 months only and then destroyed in the following cases: 1) Applicants who do not register for courses in the term for which they were admitted and have not sought a deferment of the date of entrance; 2) Those whose applications have been disapproved; 3) Applicants who do not respond to the departmental graduate program and/or the Graduate School requests for additional information; and 4) Those whose application folders remain incomplete, e.g., absent transcripts, recommendation letters, application forms, etc.

### **FEEES AND EXPENSES**

#### **Payment of Fees**

It is the policy of UMES not to defer payment on the basis of a pending application for financial assistance to an outside agency, including Veterans Administration benefits, bank loans, guaranteed student loan programs, etc.

Students whose accounts are in arrears will experience delays in registration and in admittance to classes. Students indebted to the

University are likewise prevented from having degrees conferred or transcripts released until the total debt is cleared.

The State of Maryland has a State Central Collections Unit, and in accordance with State law, UMES is required to refer all delinquent accounts to that office for collection and subsequent legal action.

### **Withdrawal and Tuition Refund (Regular Semester/Session)**

A Cancellation of Registration, submitted to the Admissions and Registration Office before the official first day of classes, entitles the student to a full credit or refund of semester/session tuition.

After classes begin, students who wish to terminate part or all of their registration must follow the drop class or withdrawal procedures stated in the "Academic Schedule" (of Classes). Students in USM intercampus enrollment must make certain they drop or withdraw at the host campus as well as at UMES. The effective date used in computing refunds is the date the drop and/or withdrawal form is filed.

Students dropping classes and/or withdrawing from the University during a semester will be credited for any allowable tuition charges, according to the following:

<b>Period from date instruction begins</b>	<b>Refundable Tuition only (not other fees)</b>
Two weeks or less	80%
Between two and three weeks	60%
Between three and four weeks	40%
After four weeks	No Refund

**(This schedule is subject to change)**

### **University Refund Statement (Regular Semester/Session)**

Tuition, any refundable fees and refundable deposits are authorized for refund only, according to a refund time schedule (see above), if the student cancels registration before classes begin, or drops classes after classes begin, completes the prescribed procedures for withdrawal from classes for the semester, or is dismissed. Note that all of these conditions apply only during the refund schedule period.

## Weekend Programs

Weekend Programs follow a separate Graduate School policy for adding, dropping and withdrawing from classes and refund of tuition. Consult the program and the Graduate School.

### GRADUATE FEES

The fees and charges listed herein are those charged at the time this Graduate School Catalog went to press and are offered as a general guide. **THE UNIVERSITY RESERVES THE RIGHT TO MAKE SUCH CHANGES IN FEES AND OTHER CHARGES AS MAY BE NECESSARY.** Fees charged in a particular semester/session are available in the Admissions and Registration office and the Graduate Studies Office.

Application Fee       \$30.00

A non-refundable \$30 application fee and a separate application must be submitted for each program or degree-level or status in which entrance is sought (see next paragraph for eligible waivers).

UMES is pleased to waive the application fee under the following circumstances:

A. The applicant had been admitted, and had previously taken graduate courses at UMES or at SU (see section on Collaborative Programs with Salisbury University); or

B. The applicant is a UMES senior or graduate with a cumulative grade point average of 3.5 or better; or

C. The applicant is a senior or a graduate of an accredited U.S. college or university, with a cumulative grade point average of 3.75 or better (confirmed by transcript).

D. The applicant is a McNair student/Scholar (must be documented).

Graduate programs may require an acceptance fee, which is applied as a credit to tuition and other fees upon the student's initial enrollment in the degree program.

### Tuition Per Credit Hour Fee:

Resident Student               \$167.00  
Non-Resident Student   \$303.00

Students admitted to the UMES Graduate School must pay the graduate tuition regardless of whether a course is audited or the credit earned will be used to satisfy program requirements. Graduate students will be charged for tuition at the graduate rate regardless of the numbering system of courses for which they register.

### SUPPLEMENTAL FEES

Registration Fee (campus)       \$ 5.00  
(Summer/Winter Session)

Graduation Fee

Master's Degree                       35.00  
Doctoral Degree                       35.00

Student Activity Fee               25.00  
(on-campus)

Vehicle Registration/  
Parking Fee                           20.00

Late Registration Fee               15.00

Off-Campus/Continuing               25.00  
Education Registration Fee

Technology Fee                       10.00

### Determination of In-State Status for Admission, Tuition and Charge-Differential Purposes

An initial determination of in-state status for admission, tuition and charge differential purposes will be made by UMES at the time a student's application for admission is under consideration. The determination made at that time, and any determination made thereafter, shall prevail in each semester/session until the determination is successfully petitioned and changed. A campus residency committee meets periodically to review petitions for reclassification to in-state status.

Persons who need assistance with the reclassification should contact the UMES Office

of Admissions or the Graduate Studies office. See the latest issue application for Graduate Admission booklet for the policy.

## **FINANCIAL ASSISTANCE**

The University of Maryland Eastern Shore recognizes the high cost of education and makes every effort to offer financial assistance to qualified students through a variety of programs. However, financial assistance is not guaranteed to admitted students. Admission to a graduate program (e.g., Provisional or Regular student status) is a prerequisite for consideration of an award of a teaching, research or administrative assigned assistantship, a fellowship, a traineeship, a grant, loan or a work-study award. Some awards are made on the basis of the applicant's academic merit and/or financial need, others on the basis of skill qualifications and other criteria. Once awarded, the continuation of most financial assistance is dependent upon the student's continued matriculation each term for a specified number of credit hours, continued good academic standing, among other factors.

The Graduate Studies office processes applications for the Graduate Studies Grant Award and doctoral fellowships. Individual faculty, the graduate programs and the academic departments recommend appointments for teaching and research assistantships. Some offices may offer administrative-type assistantships. The graduate programs as well as academic departments and offices on campus should be consulted for available fellowships, traineeships and part-time employment on sponsored grants and contracts.

The UMES Financial Aid Office determines eligibility for financial aid programs that are primarily based on "need". Full and many part-time graduate students are eligible to apply for the Federal Direct Stafford Student Loans. The Financial Aid Office also administers the Federal Direct Unsubsidized Stafford Loan Program, which is not based on need. Students must complete all the required forms for need-based aid or the unsubsidized Stafford loan program.

The Financial Aid application process takes approximately six (6) weeks to receive the student aid report and four (4) weeks for award notification. First time borrowers of student

loans will experience additional delays because of federal requirements. Students who have submitted the required documents by March 1st for the upcoming award year, will receive priority in the awarding process.

International students are not eligible for most types of financial assistance.

## **Graduate Studies Grant Award**

This grant is intended to promote diversity in the UMES graduate student population. Applications and guidelines are available in the Graduate Studies office.

## **Fellowships and Traineeships**

Some faculty, e.g., in agriculture and natural sciences, may obtain federally sponsored fellowships and traineeships for minorities in the sciences. They should be consulted on availability and applicability of this funding. Another general option for graduate students is the Henson Fellows (contact the Office of Admissions for information).

## **Assistantships**

Recommendations for appointment of graduate teaching, research or administrative assistantships, which are made by the graduate programs, academic departments, campus offices or faculty, are contingent upon the applicant's acceptance and admission into a degree program. The number, level and duration of assistantships vary by graduate program/department/office needs, enrollment, and the availability of institutional and sponsored funding.

Applications for teaching and research assistantships will usually be made directly to the program/department in which the student is admitted. These graduate assistants are supervised and mentored at the department or program level. A smaller number of assistantships (administrative assignment) may be available in selected campus offices.

Information on campus policy and procedures concerning graduate assistants is found in the Graduate Assistant Handbook available on the Graduate School website. The Graduate Studies office releases annually the

assistantship stipend amounts for each succeeding academic year.

### **Federal College Work Study Program**

UMES has a College Work-Study Program which offers part-time work opportunities for students who demonstrate sufficient financial need. Every effort is made to match student interests and career goals with suitable assignments. Graduate students who are awarded work-study are usually given positions in their programs, according to their experience and skill, such as assisting with research projects or administrative duties. Because of the limited program funds, graduate students will be considered after undergraduate student awards are made. For priority consideration, all materials must be received in the UMES Office of Financial Aid by March 1 for the Fall semester.

### **Federal Loans**

Perkins Loan Funds are available to graduate students after awards are made to undergraduate students. Loans are approved based upon financial need. Repayment begins six months after the borrower leaves school, and no interest is charged until the beginning of the repayment schedule. Repayment of the loan, including interest, is deferred during the time the borrower may be in military service, the Peace Corps, VISTA and ACTION, up to a period of three years, as well as during time of continued study on, at least, a half-time basis. For information and applications, contact the UMES Office of Financial Aid.

### **Federal Stafford Student Loan**

Stafford Student Loan programs permit students to borrow money from their hometown banks or other local financial institutions. Graduate students in good standing may borrow up to \$10,000 per year. A five- percent origination fee will be deducted from the face value of each student's loan. Students who previously borrowed at 7% or 9% may continue to borrow at that rate. New borrowers will borrow at a variable rate that will be determined each year by the federal government. Monthly repayments begin six months after graduation or

withdrawal from school. The federal government will pay the interest for eligible students while the student is in school. Contact the UMES Financial Aid office for details.

### **Federal Direct Loans**

Direct lending may be an option for students where loans are obtained from the federal government. The rules that apply to Stafford and the Unsubsidized Stafford loans also apply to federal direct loans. Contact the UMES Financial Aid office for details.

### **Golden Identification Card for Seniors Citizens of Maryland**

The purpose of this identification is to make available without charge, courses and services of the University to citizens who are 60 years of age or older, who are residents of the State of Maryland and who are retired (retired persons will be considered those who affirm that they are not engaged in gainful employment for more than 20 hours per week). Persons who meet these requirements may apply for graduate admission, either as degree or non-degree students, and must meet the same admissions criteria pertaining to either category as do all applicants. Once admitted and having been issued the Golden Identification (ID) Card, these persons may register for courses in any semester/session, subject to the same restrictions as any other student, and use the library and other campus facilities during the time they are enrolled in courses. Tuition charges will be waived for holders of the Golden Identification Card. **NOTE:** Fees are not waived and will be charged accordingly.

### **Veterans Benefits**

UMES is fully accredited for accepting Veteran students and assists them in their needs for certification. Credit is given for any work done in the military service related to their major field of study.

The Certificate of Eligibility must be submitted to the Office of Admissions and Registration when the veteran reports for registration. Benefits to which the veteran is entitled will be sent monthly by the Veterans Administration and directly to the veteran after

he/she has been properly certified. Each veteran is responsible for the payment of all fees and expenses at the same time as regular students. The Admissions Office coordinates veteran services. Veterans are advised to contact that office for further information on admissions, tutorials, and special programs.

## **REGISTRATION, CREDITS AND GRADES**

### **Academic Schedule**

Information concerning graduate class offerings, registration procedures, deadlines and the Academic calendar is found in the **Schedule of Classes** by department issued each Fall and Spring semester on the UMES website. Winter and Summer session classes are included in the Fall and Spring schedules respectively.

### **Developing a Program of Study**

**Each graduate student is responsible for understanding and complying with the rules and procedures of the UMES Graduate School and all applicable departmental graduate program requirements, which govern individual programs of study.**

Course selection for newly-admitted graduate students, whether degree or non-degree seeking, begins with a visit to each student's assigned academic advisor, usually a graduate faculty member in the departmental graduate program to which the student has been admitted. Non-degree seeking students may have a graduate faculty or program coordinator or the graduate dean as the advisor while they are in this status. Degree seeking students will obtain information from their advisors about specific degree or certificate requirements, recommendations on courses, etc. Some graduate programs have handbooks, manuals, or websites which explain degree program requirements, department resources and forms used in evaluating student progress to degree, applying for internships, etc.

Each degree-seeking student will develop with the academic advisor the program of study and timetable for completion. For information on the process and importance of advisement, students should consult the booklet,

“Guidelines for Graduate Student Academic Advisement”, on the Graduate School website.

### **Exceptions, Waivers, Appeals, Grievances**

While most questions normally raised by graduate students, and most problems they meet, will be answered or resolved by the faculty advisor or a departmental committee, the Graduate Studies office and the Graduate Dean are also charged with assisting graduate students who need additional information, guidance or follow-up assistance. Requests or petitions for exceptions or waivers of Graduate School regulations or of graduate degree requirements, appeals from decisions of departmental program faculty or administrators and grievances, with supporting materials, should be directed to the Graduate Dean for review and determination of applicable policy or procedure for the handling of the exception/waiver, appeal or grievance.

### **Course Numbering System**

#### **Course Designations**

<b>000-009</b>	<b>Non-Credit Courses</b>
<b>100-199</b>	<b>Primarily First-year undergraduate courses</b>
<b>200-299</b>	<b>Primarily Sophomore undergraduate courses</b>
<b>300-399</b>	<b>Junior and Senior courses not acceptable for credit toward graduate degrees</b>
<b>400-499</b>	<b>Junior and Senior courses acceptable for credit toward <u>some</u> graduate degrees</b>
<b>500-599</b>	<b>Professional School courses (Dentistry, Law and Medicine) and post-baccalaureate courses not for graduate degree credit. Exceptions are the UMES Physical Therapy, Master of Arts in Teaching, Rehabilitation Counseling and other designated programs.</b>
<b>600-898</b>	<b>Courses restricted to graduate students. Under certain</b>

**conditions, seniors may take 600 level courses with permission.**

**799 Master's thesis credit**

**899 Doctoral dissertation credit**

The first character of the numeric position determines the level of the course and the last two digits are used for course identification. Courses ending with an 8 or 9 are courses that are repeatable for credit. All non-repeatable courses end in 0 through 7.

### **Designation of Full and Part-time Graduate Students**

In order to accurately reflect both involvement of graduate students in their programs of study/research and use of University resources in these programs, the UMES Graduate School employs graduate units. These graduate units, in turn, are utilized in making calculations to determine full- or part-time student status in the administration of minimum registration requirements described below, and in responding to student requests for certification of full-time student status. The number of graduate units, per semester credit hour, is calculated in the following manner:

Courses in the series: 000-399 carry 2 units/credit hour;

Courses in the series: 400-499 carry 4 units/credit hour;

Courses in the series: 500-599 carry 5 units/credit hour;

Courses in the series: 600-898 carry 6 units/credit hour;

Research course: 799 carries 12 units/credit hour; and

Research course: 899 carries 12 units/credit hour.

To be certified as a full-time graduate student, an individual must be officially registered for a combination of courses equivalent to 48 units per semester. Graduate assistants, holding full time appointments, are

full-time students if they are registered for at least 24 units, in addition to their assistantship. Courses taken for Audit do not generate graduate units and cannot be used in calculating full- or part-time status. UMES reserves the right to alter this system.

### **Continuous Enrollment**

Graduate programs may require a continuous enrollment for admitted students into the program during each semester of the academic year and/or session until the student completes the degree requirements. The number of credit hours required per registration each semester or session may vary according to the course credit offerings and degree requirements of the program. In extenuating circumstances, students may petition for an official leave of absence from the program for up to one academic year (two semesters).

### **Minimum Registration Requirements**

All graduate students, at any level of study and research, making any demand upon academic or support services of the university -- whether taking courses, using UMES facilities (e.g., library, laboratories, computers, office space, housing, etc.), consulting with faculty advisors, taking comprehensive examinations and oral defenses, etc.-- must register for the number of graduate units which will, in a faculty advisor's judgment, accurately reflect a student's involvement with graduate study and use of university resources. In no case will registration be for less than one credit. Minimum registration may be needed to comply with requirements for financial aid and deferments, immigration, campus housing, health and car insurance, etc.

### **Minimum Registration Requirements for Doctoral Candidates**

Doctoral students who have been advanced to candidacy must register each semester, excluding winter and summer sessions, until their degree is awarded.

### **Dissertation Research**

Those who have not completed the required number of credit hours of Dissertation Research (899) must register for a minimum of one credit of dissertation research each semester.

Doctoral candidates whose demands upon the University are greater than that represented by a minimum registration will be expected to register for the number of graduate credits which reflect their use of UMES resources.

### **Inter-Campus Enrollment (USM)**

A student admitted to a Graduate School on any campus of the University System of Maryland (USM), is eligible to take courses on any other USM campus with approval of both the academic advisor and the graduate administrators on the home as well as host campus. Credits earned on a host campus are considered resident credits at the home campus and meet all degree requirements. Transcripts of work taken at another campus will be maintained on the home campus, and fees will be paid to the home campus. Forms for enrollment as an inter-campus student may be obtained from the Graduate School offices on any USM campus. Terms and conditions of USM intercampus enrollment are given on the reverse side of the USM form; students are responsible to notify both the home and the host campus of intended changes in registration (add/drop, withdrawal, etc.).

Inter-campus students anticipating enrollment in courses at UMES should have their forms received by the UMES Graduate School no later than ten (10) school days prior to the registration date set for each semester/session. The Inter-campus enrollment process may not be acceptable to all USM campuses during the Winter or Summer sessions as these sessions are self-supporting.

The UMES Policy on Graduate Student Concurrent Inter-Institutional Registration (1992) and the Board of Regents Policy Statement on the subject (1991) shall govern procedures and arrangements.

### **Graduate Credit for Senior Undergraduates**

A senior, in the final semester at UMES, who is within six credit hours of completing all requirements for an undergraduate degree, has a

3.0 cumulative GPA and completed any graduate course prerequisite with a grade of "B", may, with approval of both the department/program offering the course (e.g., instructor, chair) and the Graduate Dean, register for a 600 level or below graduate course. The course(s) may later be counted for graduate credit toward an advanced degree at UMES, if the student has been granted admission to the UMES Graduate School within an academic year of completing the course, and subject to the admitted program's approval in the student's plan of study.

The student's total of undergraduate and graduate courses must not exceed 15 credit hours for the semester and 6 credit hours for the Summer Session. Excess credits in the senior year cannot be used for graduate credit unless proper pre-arrangement is made. Seniors who wish to register for graduate credit should contact the UMES Graduate School for the form to be completed.

The maximum number of graduate credits that can be earned under this mechanism will be six. The credits earned can be used only once, either for the undergraduate degree or toward an advanced degree at UMES (see first paragraph of this subsection). Seniors who wish to take a graduate course for undergraduate credit should consult the subsection below.

### **Undergraduate Credit for Graduate Level Courses**

Subject to requirements and prior approval of the graduate program offering the course, undergraduate students may register for 600 level or below graduate level courses to receive undergraduate credit.

A student seeking to use this option will be in the senior year at UMES, have earned an accumulated grade point average of 3.0, have successfully completed with a grade of "B" or better any graduate course prerequisite, and be a major in the appropriate or a closely-related department.

Enrollment in a graduate level course for undergraduate credit does not, in any way, imply subsequent departmental or UMES Graduate School approval for admission into a graduate program, nor may the course(s) be used as credit for a graduate degree within the University System of Maryland.



## **Credit by Examination (Graduate and Undergraduate)**

A graduate student may obtain graduate credit by examination in courses (at the 400 level) previously identified for such credit by the appropriate department/program. As a general rule, credit by examination is not available for courses at the 600, 700 or 800 levels. In the judgment of the UMES Graduate Council, courses at these levels require a continuing interaction between faculty and students to achieve the educational goals of advanced study.

Students may receive graduate credit by examination only for courses for which they are otherwise eligible to receive graduate credit. The department or program in which the student is enrolled, may establish a limit on the number of graduate credits earned in this manner. Graduate students seeking credit by examination for graduate credit or for prerequisite undergraduate courses (100-300 series), must obtain the consent both of their advisor and of the instructor currently responsible for the course. Once each student begins the examination, the grade earned will be recorded. The fee for credit by examination is set per course regardless of the number of credits or units to be earned. The credit by examination form is available in the Admissions and Registration office.

## **Transfer of Credit**

A maximum of six semester hours of graduate level course credits, earned at regionally-accredited institutions prior to, or after matriculation in the UMES Graduate School, may be applied toward Master's degree programs. Proportionately larger amounts of credit may be applied toward Doctoral degrees.

Credit from foreign universities will be evaluated, but, because of academic and procedural differences between foreign and U.S. regionally accredited institutions, may not in every case be acceptable for transfer on a quid pro quo basis.

All graduate study credits offered as transfer credit must meet the following criteria:

- A. They must have received graduate credit at the institution where earned;

- B. They must not have been used to meet the requirements for any degree previously earned;
- C. They must have been taken within the time limits applicable to degrees awarded by the UMES Graduate School (e.g. five years'-Master's);
- D. The department or program to which the student has been admitted at UMES, must certify that the courses are appropriate and current to the degree program the student is pursuing at UMES; and
- E. The student must have earned a grade of "B" or better in the courses offered for transfer credit.

A student-seeking acceptance of transfer credit is advised to submit the necessary transcripts and certification of UMES department/program approval to the UMES Graduate School as promptly as possible, for its review and processing.

Transfer grades earned at other than University System of Maryland campuses are not factored into the computation of cumulative grade point averages at UMES nor do they appear on the transcript.

## **Criteria that Courses Must Meet to be Accepted for Graduate Credit; the Winter Session**

Any course(s), workshop or seminar(s), planned to take place in a span of time less than a normal academic semester or a winter/summer session, and offering graduate credit to participants, must meet the following criteria:

- A. There must be 15 "contact hours" per graduate credit.
  1. Lectures: 1 contact hour per 50 minutes lecture.
  2. Non-lecture contact (laboratory, workshops, discussion and problem working sessions, etc.): 1 contact hour per 2 or 3 hour session; and

- B. Ordinarily, no more than three "contact hours" per day will be permitted (three "contact hours" are equivalent to 0.2 credits). Exceptions, such as intensive all day sessions, require the prior approval of the Graduate School.

During the short winter session, lecture, non-lecture and research credit courses are limited to a maximum two hours of credit (the MAT program is excepted). All students, regardless of program, may not take more than one course during this period.

### **Course and Credit Changes**

A graduate student may change elections (i.e., drop or add a course, change between audit and credit status, change number of credits for a variable credit course within the listed range, cancel registration or withdraw from UMES) by obtaining the appropriate approvals and observing published deadlines and procedures which appear in the Academic Schedule of Classes, releases of the office of the Registrar or the Graduate Catalog.

### **Procedures for Withdrawal from the Graduate School**

Graduate students wishing to cancel their admitted status and withdraw permanently from UMES may do so at any time. The procedure for withdrawal is to submit a letter of resignation to the Graduate Dean. The letter will be reviewed and processed, and the necessary offices notified of the action. The requested date of resignation will be used as the effective date of withdrawal.

Although students may withdraw during the course of a given semester/session, they remain liable for all fees and other obligations due UMES, and their academic records will reflect their standing at the time of withdrawal. The act of permanent withdrawal prohibits readmission to the same program, should the student wish to return to graduate studies at a later time.

### **Procedure for Canceling Registration (Withdrawal) for a Semester/Session**

To cancel a registration for a given semester/session after the drop or withdrawal period ends, a graduate student must provide a

written explanation to the Graduate Dean, endorsed by the graduate program coordinator.

The "Add/Drop" form of the Registrar's office is used to cancel the course(s). The canceling of registration is treated by that office as a withdrawal from the university for the semester or session.

Cancellation of one's classes during the course of a semester/session is not meant to be used as a means of avoiding poor grades.

### **Minimum Grades for Graduate Students**

A minimum grade point average of 3.0, or "B", on all graduate level courses taken for credit is required for graduation with a graduate degree. Graduate students are required to meet all graduate program rules and regulations. The graduate programs/departments may stipulate grade and other requirements more stringent than those expected by the UMES Graduate School.

### **Policy on Incomplete Grades**

The following policy on In-complete ("I") Grades pertains to regular courses, not to the variable research credit courses available for the different Master's programs (thesis, project, etc.) and the doctoral dissertation.

The grade of "I" (Incomplete) is to be given only to a graduate student whose work in a course(s) has been qualitatively satisfactory, and when because of illness, or other circumstances beyond his/her control, the graduate student has been unable to complete the stated requirements of the course(s). In no case will the grade of "I" be recorded for a graduate student who:

- (1) has not completed satisfactorily the major portion of the coursework; and/or
- (2) wishes to improve his/her grade by additional course work not offered to all students enrolled in the course.

In cases where an "I" grade is issued, the graduate student may not re-register for the course(s) until the "I" is removed by completing work outstanding and meeting all course requirements. Work must be completed by the end of one year, or the "I" becomes "W" (withdrawal). Before the end of the one year period, a student upon written petition to the

Graduate School may request on extension of time if circumstances warrant further delay.

An "I" cannot be removed by earning "credit by examination".

When the graduate student receives the terminal grade, he/she may repeat the course as provided for any course where repeats are authorized.

### **Grading Systems**

The conventional A through F grading system is used in graduate level courses.

A "Satisfactory or Failure" (S-F) grading system may be used, at the discretion of the department or program, for certain types of graduate study. These include courses, which require independent work. Master's project and research projects may also be appropriate for such S-F grading systems.

Thesis and dissertation research use the S-F grading system (see the subsection below). Courses labeled "Topics", "Special Problems", "Seminar" may use either the A- F or S-F grading system.

Only one grading system will normally be used for a single course in a particular semester/session. The grading system will be designated by the department or program offering the course (excluding courses already specified for only one grading system).

### **Grading System for Research Credit Courses**

A grade of S/F should be used instead of an "I" grade for 799, 899 and similar research credit courses (500 to 798 series), which are offered/carried over or continued over semesters or sessions, usually with variable credit hours, and whose objective is the long-term development of a thesis, dissertation, master's project, or research project. In these instances a satisfactory ("S" grade) completion of the required research credit hours satisfies only part of the graduation requirements. A successful thesis or dissertation defense and final approved copy of the thesis or dissertation are essential for the degree programs with the thesis option and the dissertation requirement. A final written document and an oral presentation, both acceptable to the student's advisor/advisory committee, are normally the requirements for master's projects and research projects.

### **Computation of Grade Point Average (GPA)**

An "A" is calculated at 4 quality points, B at 3 quality points and C at 2 quality points. The grades of D, F and I receive no quality points. After a student is matriculated as a graduate student, all courses taken with letter grades will be used in calculating the grade point average. Students may request that prerequisite undergraduate course grades be excluded from being computed in the cumulative grade point average of their graduate record.

### **Grade Change; Repeating of Courses; Arbitrary and Capricious Grading**

A student may repeat any course where repeats are authorized, in an effort to earn a better grade. The later grade, whether higher or lower, will be used in computing the grade point average. While matriculated at UMES, a graduate student who earns a grade of "F" or "D" in residence may not advance his/her credit hours earned toward a UMES degree by repeating the course at another institution.

Grades for graduate students remain as part of each student's permanent record. In addition to the repeating of courses, grades may be changed only by the original instructor on a certification, approved by both the department chair and the Graduate School, that an actual mistake was made in determining or recording the grade, to record a missing grade from the class roster or transcript, and to remove an incomplete grade.

The UMES procedures for Review of Alleged Arbitrary and Capricious Grading (1992) address and cover both graduate and undergraduate students, and will be used.

For Section C.2.a. of the procedures, in which the faculty composition or venue are not workable, the Graduate Dean may appoint the required tenured professor(s) from the graduate faculty at-large to hear the case, which also may be heard outside the unit offering the course(s) in dispute.

### **Auditing of Graduate Courses**

A graduate student, regardless of program or status, may audit a graduate course with the written permission of the course

instructor and the student's advisor and subject to the following restrictions. Courses which may not be audited are 1) internships, 2) research credit courses such as 799/899 thesis/dissertation, 699/798 master's seminar/projects, and any other program's research designated courses, and 3) any graduate course in the graduate program with restricted enrollment such as Physical Therapy and the Master of Arts in Teaching.

Audited courses will appear on the student's academic record as "AU" and may not be used to repeat a course for which credit has been previously earned. Audited courses do not earn credit, nor count as part of the credit hour load, nor may be applied toward the requirements of a graduate degree. The regular tuition rate applies to audited courses. Once a course has been audited, it cannot be converted to credit, except as below.

If students later find that an audited course they took is/will be a required course for the degree program in which they are matriculated, they must file a Petition for Waiver of Regulation to be considered to repeat the course for credit.

### **Prerequisite Courses**

Prerequisite courses (e.g., 100 to 400 numbered undergraduate and selected 500 or 600 numbered graduate) may be required to satisfy conditions of Provisional admission status or for preparation and understanding of advanced graduate level courses (500 or 600 and above numbering sequence). Prerequisite courses may be satisfied before or after matriculation in the University of Maryland Eastern Shore, but if after matriculation, must be completed within the first academic year of admittance. Prerequisite courses provide no graduate credit (if undergraduate numbered) and do not count toward the course credits required to graduate from a graduate degree program at UMES. Prerequisite undergraduate courses may be satisfied by credit by examination at UMES if the graduate program allows it (see credit by examination subsection).

Graduate students satisfying undergraduate numbered prerequisite courses must earn a letter grade of "C" or better in the course unless a graduate program/department stipulates a higher grade. A pass/fail option may

not be used to satisfy prerequisite courses taken at the University of Maryland Eastern Shore.

### **Experimental Courses**

Students should confirm whether experimental courses may be elective courses for them or possible interim substitute core courses with the approval of the advisor and advisory committee as appropriate.

### **Undergraduate and Graduate Combined Instruction**

In 400 or 400/600 level courses approved to be applied toward a graduate degree program, which is combined undergraduate and graduate instruction, requirements for work expected in the course for graduate students will be specified to reflect the level of complexity and specialization expected of graduate study.

### **The Academic Record (Transcript)**

A graduate student's academic record (transcript) is intended to serve as a complete history of that student's academic progress at UMES. As such, it cannot be altered except in conformance with stated UMES Graduate School policies. Under no circumstances will the academic records be altered because of dissatisfaction with a grade or other academic accomplishment.

## **DEGREE REQUIREMENTS**

### **Graduate School Requirements Applicable to all Master's Degree Programs**

The entire course of study undertaken for any Master's degree must constitute a unified and coherent program, which is approved by the student's advisor and, for some programs, the program coordinator in the department.

A minimum of 30 semester hours, in courses acceptable for credit towards a graduate degree, is required; in certain cases, six of the 30 semester hours must be thesis research credits. The graduate program must include at least 12 hours of course work at the 600 level or higher. If the student is inadequately prepared for the required graduate courses, additional courses may be required, which may not be considered

as part of the student's overall program of study for the degree. Credits to be applied to a student's program for a Master's degree at UMES cannot have been used to satisfy any other previously earned Master's degree.

### **Grade Point Average (GPA)**

The student seeking any Master's degree must maintain a grade point average of "B" or 3.0 over all courses taken for graduate credit.

### **Time Limitation**

All requirements for the Master's degree must be completed within a five-year period. This time limit also applies to any transfer work from other institutions to be included in a student's overall program of study.

### **Leave of Absence; Extension of Time Limitation Period**

In cases of unusual and/or compelling reasons, a leave of absence for up to one academic year (two semesters) may be granted to a matriculated graduate student by the Graduate Dean, at the recommendation of the academic advisor and the Graduate Program Coordinator. The Graduate School's "Petition for Waiver of a Regulation" form should be completed. An approved leave of absence will stop the five-year time clock for Master's students to complete their degree program (nine years for doctoral students).

In cases of unusual and/or compelling circumstances, an extension of the time limitation period for the degree may be considered for a matriculated graduate student. If granted, the extension will normally be for no more than one academic year (two semesters). The extension is granted by the Graduate Dean on the recommendation of the academic advisor and the Graduate Program Coordinator. The Graduate School's "Petition for Waiver of a Regulation" form should be completed.

### **Residence Requirements; Continuous Enrollment**

A minimum residence at UMES of one-year of full-time study, or its equivalent, is required. The graduate programs may require a

continuous enrollment for admitted students into the program during each semester of the academic year and/or session until the student completes the degree requirements. The number of credit hours required per registration each semester or session may vary according to the course credit offerings and degree requirements of the program.

### **Comprehensive Examinations (applicable to all Master's and Doctoral Programs)**

Graduate Programs have the option of holding qualifying examinations before students complete the thesis, non-thesis option, dissertation or professional doctorate. These examinations are often termed comprehensive examinations, and are usually composed of a written and oral segment. Comprehensive examinations are usually given after a student has satisfactorily completed the coursework in a program. The examinations test a student's understanding of, and ability to integrate, knowledge in his/her program of study. Because graduate programs vary in format [fixed curriculum with few options to broad discretion in coursework in a concentration or specialization], the nature and content of comprehensive examinations, if given, will vary by program.

The Graduate School's minimum format for conducting comprehensive examinations is as follows:

1. Graduate program coordinators will have questions for comprehensive examinations from the faculty reflecting the curriculum and/ or students' program of study.
2. Students must apply to the program to take the comprehensive examination(s) and be found eligible to do so.
3. Comprehensive examinations are scheduled to be taken in a time block (a set time period, e.g., 6-8 hours duration).
4. Students taking comprehensive examinations are notified in advance of the examination date, location and time, and provided with information on proposed types of examination questions or categories of testable information (samples may be on file in the program).
5. The written examination normally precedes an oral examination (if

required), which is likewise to be scheduled shortly after the written examination and in a specified time duration.

6. Written comprehensive examinations must be monitored.
7. Written comprehensive examinations must be graded within a specified time period (e.g., within 60 days), so the oral examination may be scheduled.
8. The written examination must be passed before taking the oral examination (if the latter is required).
9. The graduate programs determine the grading and voting policy for pass/fail on the examination, which are stated in their procedures' guidelines for the comprehensive examinations.
10. Students and the Graduate School are notified of the comprehensive examinations results, written and oral, and in the case of failure, the deficiencies in performance, specified in detail, that led to failure.
11. Comprehensive examination(s) may be retaken only once in the event the student fails the initial examination in whole or part.

The following governs master's (and doctoral) programs requiring comprehensive examinations. If a student fails the required examination (written and/or oral), he/she can take it one more time. The second examination should be given no earlier than four months after the first examination and no later than one calendar year from the date of the initial examination. If the student fails the second time, the admission status is terminated.

In the program's section of the graduate catalog or separate program handbook or procedures' guidelines, students will find the particulars of the comprehensive examination process for the program. Graduate programs may set more stringent requirements than the minimum set by the Graduate School.

### **Internships and Practicums**

Internships and/or practicums may be required or optional for a program. Students may elect an internship for practical work experience/training prior to completing the thesis/non thesis option of a program, usually

after all coursework has been completed. Students may need and elect an internship as the preparation to seek initial, entry-level certification in a profession. Internships may be identified as clinical or workplace and occupation based.

If a program requires an internship or practicum as part of the curriculum and degree completion, the program must assist the student in arranging an internship or practicum appropriate to the program, specify the time period, the purpose and desired outcome(s) of the internship or practicum, arrange for the supervision and grading of the internship or practicum, and set the format for approval of the internship or practicum (e.g., any proposal to initiate and any final product such as a scholarly paper or reports).

### **Scholarly Products**

For non-thesis option graduate programs and professional doctorates, scholarly products may consist of a major seminar or research paper, a major or extensive research project, a master's project and a creative component paper. The graduate programs may set the format for the scholarly products of non-thesis option programs and professional doctorates, any of which products may also be accompanied by an oral presentation in addition to a written version. Theses and dissertations are scholarly products for thesis-required master's program and Ph.D. and Ed.D. programs respectively.

Scholarly products for required internships may consist of a culminating paper or series of reports, oral presentations or some combination thereof as determined by the program to measure the student's progress and outcome.

At the doctoral level, satisfactory completion of internships as well as comprehensive examinations precede the application for admission to candidacy for the particular doctoral degree.

### **Co-Advisement of Student's Thesis**

A Master's student may be equally and jointly advised by two Graduate Faculty members. The faculty members may be Associate or Regular Members of the UMES Graduate Faculty. For the Marine-Estuarine-

Environmental Sciences program and the graduate programs in agriculture, graduate faculty at other USM campuses and specialists at other institutions may also be used; these individuals acquire a special membership on the UMES Graduate Faculty or will have a USM Inter-Institutional (IIGF) Graduate Faculty Membership.

### **Participation in Commencement**

All requirements for graduation must be completed before the graduate student is allowed to participate in Commencement exercises. To be eligible, graduate students must have 1) abided by the dates set forth in the Graduate School's announcement on semester deadlines for graduation and marching in Commencement, pertaining to completion of, as applicable, comprehensive examinations, seminar or research papers or master's projects, and their oral presentations, or thesis or dissertation defenses; and in the case of theses or dissertations, the submitted copies acceptable to the Graduate School for binding; 2) satisfactorily completed any other particular requirements of the graduate degree which they are seeking; and 3) had processed on their behalf the Graduate School's "Certification of Completion of Master's Degree" (or Doctoral Degree) form by the designated signatories. Outstanding financial obligations must also have been satisfied.

### **Additional Requirements**

In addition to the preceding requirements, special requirements of the different graduate programs may be imposed. For these special requirements, consult the specific graduate program listings in this catalog.

### **Graduate School Requirements for the Degrees of Master of Arts and Master of Science**

#### **Thesis Option**

#### **Course Requirements**

A minimum of 30 semester hours, including six hours of thesis research credit (799), is required for the degrees of Master of

Arts and Master of Science. Of the 24 hours required in graduate courses, no less than 12 must be earned in the major subject. No less than one-half of the total required course credits for the degree, or a minimum of 12, must be selected from courses numbered 600 or above. Degree programs may stipulate course credit hours beyond the minimum.

### **Thesis Requirement**

A thesis must be submitted for the Master of Arts and Master of Science degrees, except for those programs in which a non-thesis option has been approved by the Graduate School, in conformity with the policy of the UMES Graduate Council. Approval of the thesis is a responsibility of an examining committee appointed by the Graduate School, on the recommendation of a student's advisor. The advisor is the chairperson of the committee, and the remaining members of the committee are members of the Graduate Faculty who are familiar with the student's program of study and research.

Directions for the preparation and submission of theses will be found in the "Guide to the Preparation of Theses and Dissertations" available from the Graduate School.

### **Research Assurances**

All faculty and student research and scholarly activities conducted at UMES, including student seminar or research papers, Master's projects and thesis and dissertation research, and whether primary or secondary-derived research, must be conducted in accordance with Board of Regents and USM policies. For research involving animals, human subjects, or materials that may pose biological or chemical hazards, graduate students should seek information and guidance from the Office of Sponsored Programs. UMES has established Internal Review Boards which meet periodically to review the aforementioned types of research protocols for compliance with established standards and regulations, including those established by Federal agencies (e.g., FDA, USDA, NIH). Graduate students may seek guidance from the Graduate Dean and the Director of the Sponsored Programs office about scholarly misconduct policies and issues, which include plagiarism, improper credit citations,

falsification or manipulation of a study, sources and data, intellectual property (copyright/patent) policy, among others.

### **Oral Examination**

See later section on “Established Procedures for Conduct of the Master’s Thesis Examination” for specifics.

Upon written approval of the Graduate Dean, a graduate student in otherwise good standing, but lacking a maximum of two courses toward completely fulfilling the Master's course requirements, may be allowed to undergo the oral examination, only if the student will complete the outstanding courses in the same semester in which the oral examination is given.

The duration of the examination is normally about an hour, but it may be longer if necessary, to insure an adequate examination.

### **Non-Thesis Option**

The requirements for Master of Arts and Master of Science degrees without thesis vary among the graduate programs in which this option is available. Standards for admission are identical with those for admission to any other Master's programs. The quality of work expected of each student is also identical to that expected in the thesis program.

The general requirements for those on the non-thesis program are: a minimum of 30 semester credit hours in courses approved for graduate credit with a minimum average grade of "B" in all course work taken; a minimum of 18 semester credit hours in courses numbered 600 or above; in most cases the submission of a major research project or seminar paper; successful completion of a comprehensive final examination, written or oral, or an oral defense; practica/internships if required.

### **Graduate School Requirements for the Degree of Master of Arts in Teaching**

The Master of Arts in Teaching (MAT) degree requirements include:

A. A minimum of 39 credit hours of coursework with an overall grade point average of 3.0 or higher, and

B. Successful completion of a written and/or oral comprehensive examination, a seminar paper and internship.

### **Graduate School Requirements for the Degree of Master of Education**

The Master of Education (M.Ed.) degree requirements include:

A. A minimum of 30 credit hours in course work with a grade point average of 3.0 ("B") or better, usually exclusive of internships and practicums. Grades for courses not a part of the program, but taken in graduate status, will be computed in the average;

B. A minimum of 15-18 credit hours in courses numbered 600 to 800 series, with usually no more than 12 credit hours in the 400 series; and

C. A successful completion of a written and/or oral comprehensive examination, a seminar paper by the end of the coursework and practicum and/or internship if required.

### **Graduate School Requirements for the Degree of Master of Physical Therapy**

The Master of Physical Therapy (MPT) degree requirements include:

A. 94 semester hours of didactic course work as specified in the program, with a grade point average of B or better;

B. 18 semester hours of clinical practica; and,

C. Successful completion and submission of a scholarly research project/study.

### **Graduate School Requirements Applicable to the Doctor of Philosophy (Ph.D.) and Doctor of Education (Ed.D.) degrees**

#### **Credit Requirements**

The UMES Graduate School requires that every student seeking the Ph.D. or Ed.D. degree register for a minimum of 12 research credits. The number of research and other credit hours required in the individual degree programs varies according to the program.

#### **Residence Requirements**



The equivalent of three-years of full-time graduate study and research is the minimum required. Of the three years, the equivalent of at least one-year must be spent at UMES. On a part-time basis the time needed will be increased correspondingly. All work at other institutions, offered in partial fulfillment of the requirements for the Ph.D. or Ed.D. degree at UMES, must be submitted, with the recommendation of the UMES graduate program concerned, to the UMES Graduate School for approval by the time of the application for admission to candidacy. Official transcripts of the work must be filed in the UMES Graduate School.

Doctoral programs which are full time, continuous enrollment of at least nine credit hours per semester and summer session and which follow an accelerated, intensive course scheduling format, meet the residence requirement of three years of full time graduate study and research.

### **Admission to Candidacy**

Preliminary or comprehensive examinations, or other such substantial tests as the programs may elect, and internships, are frequently prerequisites for admission to candidacy. The policy governing the number of times such examinations or internships may be taken and the outcome for failure to pass them is found in the subsections on comprehensive examinations and internships in the Graduate School Requirements Applicable to All Master's Degree Programs.

A student must be admitted to candidacy for the Doctorate within five-years after admission to the Ph.D. or Ed.D. program. It is the responsibility of each student to submit an application for admission to candidacy when all the requirements for candidacy have been fulfilled, including regular admission status. The application form is submitted to the program/department for action and forwarding to the UMES Graduate School. The application form may be obtained from the UMES Graduate School.

The time line for Admission to Candidacy for doctoral programs which are full time, continuous enrollment programs per semester/session and with an accelerated course

scheduling format will be within the third year of the program if a three-year expected completion program design. Students who fall out of the continuous enrollment pattern follow the above five-year rule for admission to candidacy.

### **Time Limitation**

The student must complete the entire program for the degree, including the dissertation and final defense, during a four-year period after admission to candidacy. Extensions of time are granted only under the most unusual circumstances. If students fail to complete all requirements within the time allotted, they must submit another application for admission to the UMES Graduate School and, if readmitted, another application for Advancement to Candidacy, after satisfying any program prerequisites prior to Advancement to Candidacy.

For leaves of absence, Ph.D. or Ed.D. students follow the same policy as for master's students (see Leave of Absence subsection under Graduate School Requirements Applicable to all Master's Degree Programs).

The time limit for required full time, continuous enrollment programs per semester and session, with an accelerated course scheduling format and with a three year expected completion program design is three years from matriculation. Under extenuating circumstances students in this type of program may have the maximum time allotment as other doctoral programs. Students who take leaves and time extension may be subject to changed curriculum and other requirements implemented during their absence.

### **Internship**

See subsection on internships in the Graduate School Requirements Applicable to All Master's Degree Programs.

### **Dissertation**

The ability to undertake independent research and provide sufficient evidence of scholarship is demonstrated by submission of an original dissertation, required of all candidates for a Ph.D. or Ed.D. degree. The topic of the dissertation must be approved by the candidate's

program committee. The subsection on "Research Assurances", listed under the Graduate School Requirements for the Master of Arts/Science Thesis option, is applicable to dissertation research. Candidates are advised to check whether their proposed research will be subject to a prior approval process by a UMES internal review board.

During preparation of the dissertation, all candidates for the Ph.D. or Ed.D. degree must register for the prescribed number of semester hours of Doctoral Dissertation Research (899) at UMES. A minimum of 12 semester hours of 899 credits is required.

Directions for the preparation and submission of dissertations will be found in the Graduate School manual for theses and dissertations, which may be obtained from the UMES Graduate School.

### **Co-Advisement of Student's Dissertation**

A Doctoral student may be equally and jointly advised by two Graduate Faculty members. The faculty members must be Regular Members of the UMES Graduate Faculty (the exception is the Marine-Estuarine-Environmental Sciences (MEES) program). For the MEES program, graduate faculty at other USM campuses and specialists at other institutions may also be used; these individuals acquire a special membership on the UMES Graduate Faculty or will have a USM Inter-Institutional Graduate Faculty Membership.

### **Publication of the Dissertation**

If a student wishes to publish all, or a portion, of the dissertation prior to its defense and approval by the UMES dissertation examining committee, he/she must first seek the approval of the Graduate Dean by submitting a letter endorsed by the dissertation advisor, which presents the case for early publication.

### **Final Defense**

The final oral defense of the dissertation is a requirement in partial fulfillment of the Ph.D. or Ed.D. degree.

One or more members of the dissertation examining committee may be persons from other institutions, including USM

campuses, who hold the doctorate and who are distinguished scholars in the field of the dissertation.

One member of the committee, designated as the Graduate Dean's representative, besides having the usual responsibility of a faculty examiner, has the additional responsibility of assuring that the examination is conducted according to established procedures. Any disagreement over the examination procedures is referred to the Graduate Dean's representative for decision.

The student is responsible for distributing a complete copy of the dissertation to each member of the committee at least ten working days before the defense.

See the section below on the Established Procedures for Conduct of the Doctoral Dissertation Defense.

### **Participation in Commencement Exercises**

See the subsection by the same title under the Graduate School Requirements Applicable to All Master's Degree Programs. Doctoral students abide by the same policy.

### **Additional Requirements**

In addition to the preceding requirements, special requirements of the different graduate programs may be imposed. For these special requirements, consult the specific graduate program listings in this catalog.

### **Graduate School Requirements For The Degree Of Doctor Of Physical Therapy**

#### **Credit and General Program Requirements**

The Professional Doctor of Physical Therapy (DPT) degree requirements include four major areas of learning and an extensive research project:

- A. 98 semester hours of didactic course work as specified in the program;
- B. 18 semester hours of clinical education experience;
- C. 6 semester hours of independent study/elective courses in specialty areas;

- D. 11 semester hours in critical inquiry/research; and
- E. Successful completion and submission of an extensive research project in written form and an oral presentation on the project.

**Residence Requirements**

Since the Doctor of Physical Therapy degree is a full time continuous enrollment program leading to an expected degree completion in three years following matriculation, the residence requirement of three years of full time study and research is satisfied.

**Time Limitation**

While the expected degree completion for the Doctor of Physical Therapy (DPT) degree is three years of full time study and research following matriculation, under extenuating circumstances DPT students may seek leaves of absences and extensions of time as the Department of Physical Therapy will allow. Leaves of absences and extensions of time follow Graduate School policy. Students who take leaves and time extensions may be subject to changed curriculum and other requirements implemented during their absences.

**Research and Research Project**

The Graduate School policy on Research Assurances and scholarly products applies to the DPT program.

**Admission to Candidacy**

The Graduate School policy on admission to candidacy for other doctoral programs applies to the DPT except that the admission should normally take place within the third year of the program. Students who fall out of the DPT continuous enrollment pattern follow the five-year rule for Admission to Candidacy.

**Participation in Commencement Exercises**

The Graduate School policy applicable to other graduate programs applies to the DPT program.

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**ESTABLISHED PROCEDURES FOR CONDUCT OF THE MASTER'S THESIS EXAMINATION**

**A. Establishment of the Thesis Examining Committee.** The Thesis Examining Committee is appointed by the Dean of Graduate Studies, in accordance with the policies listed below.

1. **Eligibility.** A student is eligible to be examined on a thesis if the student (a) has met the graduate program requirements for a thesis examination including a properly formed advisory committee and approved thesis topic, (b) is in good standing as a graduate student at the University and has regular admission status, (c) is registered for at least one credit, (d) has a valid Graduate School - approved Thesis Examining Committee, (e) has a 3.0 grade point average in the graduate program in which the student is enrolled, and (f) if this is the second examination, the examination has been approved by the Graduate School. The final oral examination shall be held when the student has completed the thesis to the satisfaction of the student's advisor. However, a thesis draft which is not presented in the standard thesis format, or the research and conclusions are incomplete, shall not be considered completed by the Graduate School for purposes of the student's eligibility to be examined on the thesis.

2. **Thesis Examining Committee Membership.** The Committee must consist of a minimum of three members, at least two of whom must be Regular or Associate Members of the UMES Graduate Faculty and at least one must be a full-time faculty in a UMES academic department. Additional Committee members may be invited to serve at the discretion of the program. Each member of the Thesis Examining Committee must be a member of the UMES Graduate Faculty; whether in a Regular, Associate or Special Member category, or an approved Inter-Institutional Graduate Faculty (IIGF) Member. An IIGF member may serve as chair of the committee. The Committee is usually composed of the original program of

study/research advisory committee for the student.

3. **Nomination of the Thesis Examining Committee.** Membership on a Thesis Examining Committee requires nomination by the student's advisor, concurrence (if required) by the graduate program coordinator in the student's graduate program, and approval by the Dean of Graduate Studies who appoints the committee. The nomination of a Thesis Examining Committee should be provided to the Graduate School at least three weeks before the date of the expected thesis examination. The thesis examination cannot be held until the Graduate School approves the composition of the Thesis Examining Committee.

4. **Research Assurances.** If the thesis research involves the use of vertebrate animals, animal use protocols must be approved by the campus Animal Care and Use Committee. If the thesis research involves human subjects, the research must be approved by the campus Institutional Review Board. If the thesis research involves hazardous materials, either biological or chemical, or recombinant RNA/DNA, the research must be approved by the appropriate University committee. These research assurances must be approved prior to the initiation of any thesis-related research, and the approvals must be provided to the Graduate School at the time the student submits the Nomination of Examining Committee form. The UMES Office of Sponsored Programs is the contact office for guidance on and the processing of research assurances.

5. **Chair.** Each Thesis Examining Committee will have as chair the student advisor, who must be a Regular or Associate Member of the Graduate Faculty. Thesis Examining Committees may be co-chaired, if (a) co-advisement was approved at the time of the student's admission to Graduate School, or if (b) upon written recommendation of the student's advisor, concurrence (if required) of the graduate program coordinator, and with approval of the Dean of Graduate Studies; at least one of the co-chairs must be a Regular or Associate Member of the UMES Graduate Faculty.

6. **Special Members.** Individuals who have been approved for Special Membership in the UMES Graduate Faculty may be nominated to serve on Thesis Examining Committees. However, these individuals must be in addition to the required two Regular or Associate Members of the UMES Graduate Faculty (see A-2 above).

7. **Service of Former UMES Faculty Members.** Graduate Faculty who terminate employment at UMES (and who do not have emeritus status) retain their status as members of the Graduate Faculty for a twelve-month period following their termination. Thus, they may serve as members and chairs of Thesis Examining Committees during this twelve-month period if they are otherwise eligible. After that time, they may no longer serve as chairs of Thesis Examining Committees, although, if granted the status of Special Members of the Graduate Faculty, they may serve as co-chairs (see A-5, above).

Professor Emeriti and Associate Professor Emeriti of UMES may serve or chair Thesis Examining Committees provided they were Regular or Associate Members of the Graduate Faculty at the time of retirement.

## **B. Procedures for the Oral Examination:**

1. **Oral Examination Requirement.** Each master's thesis student is required to defend orally his or her master's thesis as a requirement in partial fulfillment of the master's degree. (An additional comprehensive written examination may also be required at the option of the program).

2. **Committee Preparation.** The members of the Thesis Examining Committee should receive the thesis ten working days before the scheduled examination. Should the Thesis Examining Committee deem it reasonable and appropriate, it may require submission of the thesis more than ten working days in advance of the examination.

3. **Attendance at the Examination.** Oral examinations must be attended by all members of the student's officially established Thesis Examining Committee as approved by the Dean of Graduate Studies. All examinations must be

open to UMES Graduate Faculty and the campus community. Should a last minute change in the composition of the Thesis Examining Committee be required, the change must be approved by the Dean of Graduate Studies in consultation with the graduate program coordinator (if required) and the chair of the student's Thesis Examining Committee.

4. **Location of the Examination.** Oral examinations of theses must be held in University facilities that are readily accessible to all members of the Thesis Examining Committee and others attending the examination. The chair of the Thesis Examining Committee selects the time and place for the examination, notifies the other members of the Committee and the candidate, and releases the public notice of the examination. Under special circumstances as approved by the Dean of Graduate Studies, and if it can be logistically arranged, the interactive video network or other acceptable electronic medium may be used to accommodate an off-site committee member. In this case, the committee member must follow up with a written recommendation to the committee chair.

5. **Invalidation of the Examination.** The Dean of Graduate Studies may void any examination not carried out in accordance with the procedures and policies of the Graduate School. In addition, upon the written recommendation of the Thesis Examining Committee or any member thereof, and upon consultation with the committee chair, the Dean of Graduate Studies may rule an oral examination to be null and void.

6. **Conclusion of the Examination.** After the oral examination of the student, the Thesis Examining Committee discusses in closed session whether or not the thesis (including its examination) has been satisfactory. The Committee has the following alternatives:

- a. To accept the thesis without any recommended changes and sign the Report of Examining Committee.
- b. To accept the thesis with recommendations for changes, and, except for the chair, sign the Report of Examining Committee. The chair will

check the thesis and, upon his/her approval, sign the Report of Examining Committee.

- c. To recommend revisions to the thesis and not sign the Report of Examining Committee until the student has made the changes and submitted the revised thesis for the Thesis Examining Committee's approval. The Thesis Examining Committee members sign the Report of Examining Committee if they approve the revised thesis.
- d. To recommend revisions and convene a second meeting of the Thesis Examining Committee to review the thesis and complete the student's examination.
- e. To rule the thesis (including its examination) unsatisfactory, and therefore, the student fails.

Following the examination, the chair must inform the student of the outcome of the examination, which of the above alternatives has been adopted, and if other than alternatives **a** or **e**, an expected time period in which the process is to be completed.

7. **Passage or Failure.** The student passes if all members of the Thesis Examining Committee accept the thesis (including its examination) as satisfactory. One or more negative votes constitute a failure of the candidate to meet the thesis requirement. In cases of failure, the Thesis Examining Committee must specify in detail and in writing the nature of the deficiencies in the thesis and/or the oral performance that led to failure. This statement is to be submitted to the graduate program coordinator, the Dean of Graduate Studies and the student. A second examination may be permitted if the student will be in good standing at the time of the proposed second examination. A second examination requires the approval of the graduate program coordinator and the Dean of Graduate Studies. If the student fails this second examination, or if a second examination is not permitted, the student's admission to the graduate program is terminated. Any disagreements on the thesis are referred to the Dean of Graduate Studies for resolution.

**C. Submission of the Thesis.** Two copies of the thesis, in a format approved by the Graduate School, are to be submitted to the Graduate School after final approval of the thesis by the Thesis Examining Committee. Additional copies may be required by individual programs. See the UMES Guide to the Preparation of Theses and Dissertations for the details of this process. The final approved copies must be submitted to the Graduate School within three months of the oral examination for outcomes 6a and 6b above, and within six months for outcomes 6c and 6d above. The oral examination may be invalidated and the student required to defend the thesis for a second time should these deadlines be missed, except in extraordinary circumstances acceptable to the graduate dean.

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**ESTABLISHED PROCEDURES FOR  
CONDUCT OF THE DOCTORAL  
DISSERTATION DEFENSE**

**A. Establishment of the Dissertation Examining Committee.** The Dissertation Examining Committee is appointed by the Dean of Graduate Studies, in accordance with the policies listed below.

1. **Eligibility.** A student is eligible to defend a dissertation if the student (a) has advanced to doctoral candidacy, (b) has met the graduate program requirements for a dissertation defense, (c) is in good standing as a graduate student at the University, with a 3.0 Cumulative Grade Point Average, (d) is registered for at least one credit (as applicable; refer to the Graduate Catalog sub-sections on Minimum Registration Requirements for Doctoral Candidates and Dissertation Research); (e) has a valid Graduate School-approved Dissertation Examining Committee, and (f) if this is the second defense, the defense has been approved by the Graduate School. The defense shall be held when the student has completed the dissertation to the satisfaction of the student's advisor. However, a dissertation draft which is not presented in the standard dissertation format, or for which the research and conclusions are incomplete, shall not be considered complete by

the Graduate School for purposes of the student's eligibility to defend the dissertation.

**2. The dissertation.** The ability to do independent research and provide sufficient evidence of scholarship must be demonstrated by an original dissertation on a topic approved by the candidate's program committee. For publication of the dissertation prior to its defense, refer to the Graduate Catalog subsection on this subject.

**3. Dissertation Examining Committee Membership.** The Committee must consist of a minimum of five voting members, at least three of whom must be Regular Members of the UMES Graduate Faculty and at least two must be full-time faculty in a UMES academic department. At least one of the five must be a Regular Member of the Graduate Faculty in a department or graduate program at UMES external to the one in which the student is seeking the degree. Additional Committee members may be required or invited to serve at the discretion of the program. Each member of the Dissertation Examining Committee must be a member of the UMES Graduate Faculty; whether in a Regular, Associate, or Special Member category, or an approved University System of Maryland Inter-Institutional Graduate Faculty (IIGF) member. An IIGF member may serve as chair of the committee.

**4. Nomination of the Dissertation Examining Committee.** Membership on a Dissertation Examining Committee requires nomination by the student's advisor, the concurrence (if required) by the graduate program coordinator in the student's graduate program, and approval by the Dean of Graduate Studies who appoints the committee. The nomination of a Dissertation Examining Committee should be provided to the Graduate School at least three weeks before the date of the expected dissertation defense. The dissertation defense cannot be held until the Graduate School approves the composition of the Dissertation Examining Committee. In case of any unavoidable circumstances, a committee member can be substituted by another graduate faculty member at the request of the Committee Chair and approval by the Dean of Graduate Studies.

5. **Research Assurances.** If the dissertation research involves the use of vertebrate animals, animal use protocols must be approved by the campus Animal Care and Use Committee. If the dissertation research involves human subjects, the research must be approved by the campus Institutional Review Board. If the dissertation research involves hazardous materials, either biological or chemical, or recombinant RNA/DNA, the research must be approved by the appropriate University committee. These research assurances must be approved prior to the initiation of any dissertation-related research, and the approvals must be provided to the Graduate School at the time the student submits the Nomination of Examining Committee form. The UMES office of Sponsored Programs is the contact office for guidance on and the processing of research assurances.

6. **Chair.** Each Dissertation Examining Committee will have a chair (usually the advisor or major professor), who must be a Regular Member of the Graduate Faculty or, by special permission, has been otherwise appointed by the Dean of Graduate Studies. Dissertation Examining Committees may be co-chaired, if (a) co-advisement was approved at the time of the student's admission to Graduate School or upon (b) written recommendation of the student's adviser, concurrence of the graduate program coordinator (if required), and with the approval of the Dean of Graduate Studies; at least one of the co-chairs must be a Regular Member of the UMES Graduate Faculty for the Marine-Estuarine-Environmental Sciences (MEES) program.

7. **Representative of the Dean of the Graduate Studies.** Each Dissertation Examining Committee shall have appointed to it a representative of the Dean of Graduate Studies to observe the process. The Dean's Representative should have some background or interest related to the student's research. The Dean's Representative must be a Regular Member of the UMES Graduate Faculty and from a department or graduate program other than the student's home department. The Dean's Representative is normally one of the five voting members of the student's committee, unless circumstances warrant that the Dean's

Representative be an external appointee, and in these instances, a non-voting member of the committee.

8. **Special Members.** Individuals who have been approved for Special Membership in the UMES Graduate Faculty may be nominated to serve on Dissertation Examining Committees. However, these individuals must be in addition to the required three Regular Members of the UMES graduate faculty (see A-3, above).

9. **Service of former UMES faculty members.** Graduate Faculty who terminate employment at UMES (and who do not have emeritus status) retain their status as members of the Graduate Faculty for a twelve-month period following their termination. Thus, they may serve as members and chairs (but not as Dean's Representatives) of Dissertation Examining Committees during this twelve-month period if they are otherwise eligible. After that time, they may no longer serve as chairs of Dissertation Examining Committees, although, if granted the status of Special Members of the Graduate Faculty, they may serve as co-chairs (see A- 6, above). Professors Emeriti and Associate Professors Emeriti may serve on Dissertation Examining Committees provided they were Regular or Associate Members of the UMES Graduate Faculty at the time of retirement; unless granted special permission by the Graduate Dean, only those with Regular Membership in the Graduate Faculty can chair Dissertation Examining Committees or serve as the Dean's Representative.

#### **B. Procedures for the Oral Defense:**

1. **Oral defense requirement.** Each doctoral candidate is required to defend orally his or her doctoral dissertation as a requirement in partial fulfillment of the doctoral degree.

2. **Committee preparation.** The members of the Dissertation Examining Committee should receive the dissertation at least ten working days before the scheduled defense. Should the Dissertation Examining Committee deem it reasonable and appropriate, it may require submission of the dissertation more than ten working days in advance of the defense.

- 3. Attendance at the defense.** Oral defenses must be attended by all members of the student's officially established Dissertation Examining Committee as approved by the Dean of Graduate Studies. All defenses must be open to UMES Graduate Faculty and the campus community. Should a last-minute change in the constitution of the Dissertation Examining Committee be required, the change must be approved by the Dean of Graduate Studies in consultation with the graduate program coordinator (if required) and the chair of the student's Dissertation Examining Committee.
- 4. Location of the defense.** Oral defenses must be held in University facilities that are readily accessible to all members of the Dissertation Examining Committee and others attending the defense. The chair of the Dissertation Examining Committee selects the time and place for the examination, notifies the other members of the Committee and the candidate, and releases the public notice of the defense. Under special circumstances as approved by the Dean of Graduate Studies, and if it can be logistically arranged, the interactive video network or other acceptable electronic medium may be used to accommodate an off-site committee member. In this case, the committee member must follow up with a written recommendation to the committee chair.
- 5. Notice.** Notice of the doctoral defense must be publicized in the student's graduate program/department at least five working days prior to the defense.
- 6. The Dean's Representative.** The responsibilities of the Dean's Representative include the following: to ensure that the procedures of the oral defense are in compliance with those of the Graduate School and to report to the Dean of Graduate Studies any unusual problems experienced in the conduct of the defense. The Dean's Representative must be identified at the beginning of the defense.
- 7. Invalidation of the defense.** The Dean of Graduate Studies may void any defense not carried out in accordance with the procedures and policies of the Graduate School. In addition, upon recommendation of the Dean's Representative, the Dean may rule an oral defense to be null and void.
- 8. Student presentation.** The student is permitted to briefly present a summary of the dissertation, emphasizing the important results and giving an explanation of the reasoning that led to the conclusions reached. The floor will then be open for questioning. This presentation is open to the public.
- 9. Opportunity for questioning by members of the Dissertation Examining Committee.** The chair invites questions in turn from each member of the Dissertation Examining Committee. The questioning may continue as long as the Dissertation Examining Committee feels that it is necessary and reasonable for the proper examination of the student. This portion of the defense is held in closed session.
- 10. Conclusion of the defense.** After questioning of the student has been completed, the Dissertation Examining Committee discusses in closed session whether or not the dissertation (including its defense) has been satisfactory. The Committee has the following alternatives:

  - a. To accept the dissertation without any recommended changes and sign the Report of Examining Committee.
  - b. To accept the dissertation with recommendations for changes, and, except for the chair, sign the Report of Examining Committee. The chair will check the dissertation and, upon his/her approval, sign the Report of Examining Committee.
  - c. To recommend revisions to the dissertation and not sign the Report of Examining Committee until the student has made the changes and submitted the revised dissertation for the Dissertation Examining Committee's approval. The Dissertation Examining Committee members sign the Report of Examining Committee if they approve the revised dissertation.



- d. To recommend revisions and convene a second meeting of the Dissertation Examining Committee to review the dissertation and complete the student's defense.
- e. To rule the dissertation (including its defense) unsatisfactory, and therefore, the student fails.

Following the defense, the chair, in the presence of the Dean's Representative, must inform the student of the outcome of the defense, which of the above alternatives has been adopted, and if other than alternatives **a** or **e**, an expected time period in which the process is to be completed.

**11. Passage or failure.** The student passes if one member refuses to sign the Report, but

the other members of the Dissertation Examining Committee agree to sign, before or after the approval of recommended changes. Two or more negative votes constitute a failure of the candidate to meet the dissertation requirement. In cases of failure, the Dissertation Examining Committee must specify in detail and in writing the nature of the deficiencies in the dissertation and/or the oral performance that led to failure. This statement is to be submitted to the graduate program coordinator, the Dean of Graduate Studies and the student. A second defense may be permitted if the student will be in good standing at the time of the proposed second defense. The time limits for the second defense to take place are no less than six months and no later than twelve months after the first defense. A second defense requires the approval of the student's advisor, the graduate program coordinator (if required) and the Dean of Graduate Studies. If the student fails this second defense, or if a second defense is not permitted, the student's admission to the graduate program is terminated. Any disagreements on the dissertation are referred to the Dean of Graduate Studies for resolution.

**C. Submission of the Dissertation.** Two copies of the dissertation, in a format approved by the Graduate School, are to be

submitted to the Graduate School after final approval of the dissertation by the Dissertation Examining Committee. Additional copies may be required by individual programs. See the UMES Guide to the Preparation of Theses and Dissertations for the details of this process. The final approved copies must be submitted to the Graduate School within three months of the oral defense for outcomes 6a and 6b above, and up to twelve months for outcomes 6c and 6d above so long as the deadline for outcomes 6c and 6d is within the four year period after admission to candidacy for completion of the degree program. The oral defense may be invalidated and the student required to defend the dissertation for a second time should these deadlines be missed, except in extraordinary circumstances acceptable to the graduate dean.

## OTHER GRADUATE SCHOOL POLICY

### Petition for Waiver or Partial Waiver of a Regulation

All policies of the UMES Graduate School have been formulated by the UMES Graduate Council, the governing body of the graduate school, with the goal of ensuring academic quality. These policies must be equitably and uniformly enforced for all graduate students. Nevertheless, circumstances occasionally occur which warrant individual consideration. Therefore, if a graduate student believes that there are compelling reasons for a specific regulation to be waived or modified, the student should submit the Graduate School's Petition form, explaining the facts and issues, which bear on the case. In all instances, the Petition must be reviewed by the academic advisor and the graduate program coordinator, and if the Petition involves a course, by the course instructor. If these officials recommend approval, the Petition is then forwarded to the Graduate Dean for final review and action.

## COMMENCEMENT

Application for Degree (diploma) must be filed with the Office of Admissions and Registration according to deadlines set by that

office. If, for any reason, students do not complete the requirements for graduation in the semester for which they have applied for the diploma, they must reapply for it.

Academic regalia are required of all candidates at commencement exercises. Those who so desire may purchase or rent caps and gowns at the campus Follett Higher Education Group Bookstore. Orders must be filed approximately thirteen weeks before the date of commencement, but may be cancelled later if students find themselves unable to complete the requirements for the degree. Students should consult the Bookstore on the exact dates for filing orders and for cancellation of orders.

### **INSTITUTIONAL POLICIES GOVERNING STUDENTS**

Graduate students are subject to State, University System and Campus policies governing employees, students and visitors to the campus. By their acceptance of admission and matriculation at UMES, students indicate their willingness to comply with these policies. These policies address such topics as smoking, use of alcoholic beverages, drug abuse, non-discrimination, sexual harassment, handicapped access, vehicular traffic laws, registration and parking, theft or damage to University property, and federal regulations and compliance governing research and financial assistance/funding.

Students should familiarize themselves with the above policies. Also particularly relevant are the University System of Maryland "Policy on Faculty, Student and Institutional Rights and Responsibilities for Academic Integrity," and the UMES Policy and Procedures on the Disclosures of Student Records (1992), which complies with the Family Educational Rights and Privacy Act. Students should direct specific inquiries and problems to the appropriate campus office.

Consult the annually issued UMES Student Handbook, which is a guide to all aforementioned university policies and academic administrative policies and procedures applicable to undergraduate and graduate students. University services and activities are also found in the handbook.

The student code of conduct policy (latest issue of the UMES student judicial manual) applies to graduate students.

### **SELECTED STUDENT SERVICES AVAILABLE TO GRADUATE STUDENTS**

#### **ON CAMPUS GRADUATE HOUSING**

Currently enrolled graduate students, who desire to live on campus, are required to file an application for Residence Hall Accommodations with the Office of Residence Life (ORL). ORL has limited space available for graduate students.

Graduate students wishing to reserve housing are required to submit a deposit of \$100.00. This deposit is not refundable after August 1st for the Fall semester and January 1st for the Spring semester, and will be applied toward the student's room charges for the semester. Returning graduate students, who pay a room deposit for the Fall or Spring semester and do not plan to occupy the assigned room, will have until August 15 for the Fall semester and January 15 for the Spring semester, respectively, to notify ORL in writing of their intentions. Failure to give proper notice will result in forfeiture of the deposit or additional penalties.

#### **HEALTH CENTER**

The Charles R. Drew Student Health Center is primarily charged with aiding students in maintaining their physical well being, so that they may pursue their studies as effectively as possible. Health insurance, which is highly recommended, is the responsibility of each student and is not implied in the general health services offered by UMES. While the campus does not offer any health insurance plans, students may obtain information through the Health Center about such policies for students. Students are requested to provide proof of up-to-date immunizations prior to matriculation.

The Student Health Center is open every school day. For emergencies after hours, students may seek assistance from the Office of Public Safety or the Residence Life staff. For additional information, consult the Health Center or the Student Affairs Office.

#### **UNIVERSITY COUNSELING SERVICES**

The Counseling Services unit provides individual, group, and couples' counseling for all students. Counseling is a collaborative process between the counselor and the student, which involves the development of a helping relationship. Counseling provides a safe non-threatening atmosphere where students may seek counseling and related services for a wide range of concerns. All the services exist to increase self-awareness, understanding and problem solving skills that are essential in everyone's life. Counseling can assist students in effectively confronting and coping with uncertainty and conflict. The Counseling Services at UMES subscribes to a personal growth and wellness model. The wellness model is holistic in nature since various aspects of one's life, including the intellectual, social, personal and academic, often overlap and intertwine.

Additionally, Counselors provide outreach and consultation for the University community. Workshops, class presentations, and residence hall programs are some of the examples of outreach services that may be requested.

All records and information are confidential according to professional and ethical guidelines. Counseling records are not made available to anyone without the expressed written consent of the student. Services are provided at no cost to all currently enrolled students at UMES.

### **STUDENT SERVICES CENTER**

The Student Services Center (SSC) offers facilities and offices for registered student organizations at UMES. The SSC and the Office of Student Activities offer cultural, recreational and educational programs, events and activities for students, faculty and staff, as part of co-curricular program offerings. The office also provides events management planning services for the university community.

The Student Services Center houses: a) the Career Services office; b) Bookstore; c) Game, Bowling and Billiards area; d) Dining Hall; e) Theatre; f) Automatic Bank Machine; g) the Student Identification Center; h) campus post office i) lounges j) the Student Government Association; k) and the Office of Commuter Student Services.

### **COMMUTER SERVICES**

The Office of Commuter Student Services provides information, programs, and services for commuters, those students who live off-campus while attending UMES. The Road Hawk commuter newsletter is sent home to each commuter bi-monthly and the Commuter Update is distributed around campus on the alternating months. The Office of Commuter Student Services encourages commuters to become more aware of and involved with University life.

### **CAREER SERVICES OFFICE**

The Office of Career Services assists graduate and undergraduate students as well as alumni with all aspects of career development. The staff provides individualized career counseling, which involves the beginning stages of career development, career assessment, gathering of occupational information and the utilization of computerized career guidance programs. Emphasis is also placed on the preparation of resumes, interviewing techniques and other job search strategies.

The office maintains a computerized job listing of current employment, employment directories and lists of prospective employers and many other career related resources. Referrals and on-campus interview services are also available to students and alumni registered with the office. The office also supplies information about internships, summer jobs and also programming for graduate/scholarship preparation and assistance.

The office provides information about testing for the Graduate Record Examinations (GRE), the Law School Admission Test (LSAT), the Professional Assessments for Beginning Teachers (PRAXIS) and the College Level Examination Program (CLEP).

All students are strongly encouraged to register with the office prior to graduation in order to establish a Credential Portfolio file and to become eligible for the services provided by the office of Career Services.

The Career Services office also administers the Cooperative Education program, which has opportunities for graduate students. Interested students should contact the office for details.

## **DISABILITIES SERVICES CENTER**

Students with learning or physical disabilities should consult the office of Services for Students with Disabilities.

## **ACADEMIC SUPPORT SERVICES**

Consult the Academic Support Services office for Assistance with writing skills.

## **ATHLETIC CENTER**

The William P. Hytche Athletic Center includes an Olympic-size swimming pool, NCAA regulation in-door track arena, state-of-the-art exercise and fitness equipment, a dance studio and sports event arena.

## **GRADUATE RESEARCH AND INSTRUCTION RESOURCES**

### **THE UNIVERSITY LIBRARY SERVICES**

The Frederick Douglass Library is a modern, functional, open-stack library near the center of the campus. It houses approximately 177,000 volumes. The collection includes printed books, journals, audiovisuals, micro-media and computer media. The library includes 30,000 bound periodicals and over a half million microfiche and microfilm collections. The library is a repository for many U.S. Government and Maryland State documents. Official publication of some United Nations special agencies are also in the collection.

A professional staff of librarians offers user education and orientation tours of the library. The Special Library Collections include the curriculum library of textbooks and courses of study, the Maryland Collection, and books about Black-Americans.

Under an agreement with the U.S. Department of Agriculture (USDA), UMES students and faculty can access and use the National Agricultural Library in Beltsville, Maryland.

Networks are available to support library services to the academic community: the OCLC, Inc. Network for Interlibrary Loan and Cataloging; the University System of Maryland

(USM) Library Information Management system which use CARL, Inc. to provide access to USM library holdings of the 11 campuses/13 libraries, and also to 700 other CARL sites; the Uncover Article Delivery; and the Frederick Douglass Library CD-ROM Local Area Network. Computerized literature searches are available through the DIALOG Information Retrieval Service. SAILOR, an on-line, public information network to provide rapid, easy access to information within the State and worldwide, is accessible via the Internet. The library participates in JSTOR, a fully searchable electronic database of 117 major research journals in a variety of academic disciplines.

## **SPECIAL RESEARCH RESOURCES**

The UMES campus is within a 2 ½ hour drive of one of the greatest concentrations of research facilities and intellectual talent in the nation in the Washington, D.C. – Baltimore-Northern Virginia corridor. Libraries and laboratories, serving virtually every academic discipline, are within easy commuting distance. Opportunities abound for the exchange of ideas, information, and scholarship. Many of the libraries and laboratories are open to qualified UMES graduate students, others by special arrangement.

The federal sector possibilities for faculty and graduate student collaboration include the USDA's Beltsville (Maryland) Agricultural Research Center, the National Institutes of Health (for biomedical and behavioral research), the National Institute of Standards and Technology, the Naval Research Laboratory, among others.

The State's concern with the commercial and recreational use of the Chesapeake Bay, as well as its preservation, has been a focus of the University of Maryland Center for Environmental Studies (CES). Two of the CES research facilities are located on the Chesapeake Bay, one of which is an hour away from UMES in Cambridge. UMES graduate students may use CES faculty on their research committees, and access CES facilities and equipment. In addition to the UMES farm, graduate students in agriculture have access to the research farms and facilities of the Research and Education Centers of the Maryland Agricultural Experiment Station/Cooperative

Extension Service. The UMES Agriculture Research Program is a part of the Agricultural Experiment Station.

The University System of Maryland jointly participates in the Chesapeake Research Consortium, Inc., a wide-scale environmental research program, with Johns Hopkins University, Virginia Institute of Marine Science and the Smithsonian Institute. The consortium coordinates and integrates research on the Chesapeake Bay, and is compiling a vast amount of scientific data to assist in the management and control of the area. Each participating institution draws on faculty expertise in a diversity of disciplines. The consortium provides research opportunities for UMES faculty and graduate students.

The University of Maryland is among a select group of U.S. universities and colleges to have attained the U.S. Department of Commerce's designation as a Sea Grant College. The Maryland Sea Grant college, housed at the College Park campus, is a statewide program in marine research, education and outreach, focused primarily on the Chesapeake Bay.

## THE UMES OFFICE OF SPONSORED RESEARCH AND PROGRAMS

The UMES Office of Sponsored Research and Programs (ORSP) assists faculty involved in graduate research and instruction by helping them in the preparation and submission of proposals, and in the administration of subsequent grant and contract awards from federal, state and private sponsors.

ORSP can be helpful to graduate faculty and/or graduate students in: a) identifying potential funding sources, b) maintaining contacts with potential sponsors, c) assisting with proposal development and the processing of proposals to sponsors, d) coordinating sponsor-required compliance review functions (e.g., for animal welfare, human subjects, biological and chemical hazards), and e) monitoring grant and contract activities to ensure that project expenditures are within the regulations and policies of the University System of Maryland, the State of Maryland, and the Federal Government. OSP assists with the review of financial support and other resources available for graduate students on specific sponsored projects of UMES faculty.

### DEGREE PROGRAMS BY SCHOOL AND DEPARTMENT

#### SCHOOL OF AGRICULTURAL AND NATURAL SCIENCES

##### Departments of Agriculture and Human Ecology

**-Food and Agricultural Sciences**  
**-Food Science and Technology**

##### Department of Natural Sciences and Interdepartmental

**-Marine-Estuarine-Environmental Sciences**  
**-Toxicology**

##### Department of Physical Therapy

**-Physical Therapy**

##### Department of Rehabilitation Services

**-Rehabilitation Counseling**

#### \*\*\*\*\* SCHOOL OF THE ARTS AND PROFESSIONS

##### Department of Criminal Justice

**-Criminology & Criminal Justice**

##### Department of Education

**-Guidance and Counseling**  
**-Special Education**  
**-Master of Arts in Teaching**

##### Interdepartmental

**Organizational Leadership**  
**Education Leadership**

#### \*\*\*\*\* SCHOOL OF BUSINESS AND TECHNOLOGY

##### Department of Mathematics and Computer Science

**-Applied Computer Science**

##### Department of Technology

**-Career and Technology Education**

### DISCONTINUED PROGRAMS

The Agriculture and Extension Education (AEED) program and the Master of Physical Therapy (MPT) program are restricted to current admitted students completing the respective degree program.

Agriculture and Extension Education will become a concentration in the Food and Agricultural Sciences program and be open to future students. The Master of Physical Therapy program has been superceded by the Doctor of Physical Therapy program.

For current students in either the AEED or the MPT program, there are no changes in the respective degree program requirements. The catalog description of these two programs may be found in the 2002-2004 Graduate Catalog (web version) and the 2001-2002 and previous years' print version graduate catalogs.

### ACADEMIC INTEGRITY

The UMES Student Handbook (latest annual issue) contains the campus' policy on academic honesty and integrity, covering falsification, cheating and plagiarism, with consequences.

## FOOD AND AGRICULTURAL SCIENCES

### Objectives of Program

The overall objective of the program is to provide the State of Maryland, the Eastern Shore region and the nation with persons possessing the M.S. degree who have the knowledge and skills necessary to fill critical employment needs in scientific, technological and economic areas related to food and agriculture. Specific objectives of the program are:

- ❖ To provide students with competencies in research and scientific knowledge needed for gainful employment in the Food and Agricultural Sciences;
- ❖ To provide in the land-grant tradition, a quality education with research training at the Master's level within a framework of holistic and interdisciplinary agricultural science technology;
- ❖ To recruit minorities and women to pursue careers in agricultural professions where they have traditionally and historically been under-represented;
- ❖ To assist students in developing their skills in problem solving, analytical thinking, communication and leadership.

### Description of Program

The Departments of Agriculture and Human Ecology at the University of Maryland Eastern Shore offer a graduate program leading to the degree of Master of Science (M.S.) in Food and Agricultural Sciences. Concentrations include: **Agricultural Economics, Animal and Poultry Science, Food and Nutrition, Natural Resources Science, Plant and Soil Science, and Agriculture and Extension Education.** In typical situations, the prerequisite to graduate work is the completion of a curriculum substantially equivalent to that required of undergraduate students enrolled in the

Departments of Agriculture and Human Ecology at UMES. A student may qualify for graduate study, however, even though his/her undergraduate degree has been earned in a discipline other than agriculture or human ecology. Supporting or prerequisite work may be required, depending upon the student's background and area of interest. A minimum cumulative grade point average of 3.0 (A=4.0) is required for regular acceptance, but at the discretion of the Admissions Committee, a student with a lower grade point average may be admitted on a provisional basis. Graduate Record Examination (GRE) scores (general test only), three letters of recommendation and a completed application form are required of all applicants. Foreign students must take the Test of English as a Foreign Language (TOEFL) and score a minimum of 550 or 213 (computer test).

The program offers a thesis or non-thesis option for completion of degree requirements. The thesis option is designed for students who wish to conduct a research project and is required of all students holding graduate research assistantships. Students are required to complete a minimum of 24 hours of course work and 6 hours of thesis credits for a total of 30 hours. The non-thesis option is designed for students who do not wish to complete a thesis research project. Students who choose this option must complete a minimum of 36 hours of course work which includes a "creative component" (e.g., scholarly paper).

Each student is assigned an advisor/major professor according to his/her area of concentration. Major professors may be either regular or associate members of the University of Maryland Eastern Shore Graduate Faculty. The student, in consultation with the major professor, selects his/her Graduate Committee no later than the end of the second semester following enrollment. Each student's program of study is planned in conference with the major professor and Graduate Committee. For additional information on completion of degree requirements, students should consult the booklet, Guidelines for the Graduate degree programs in Food and Agricultural Sciences and Food Science and Technology. All students, regardless of the area of concentration or program option chosen, must maintain an overall

3.0 grade point average, complete degree requirements within 5 years of initial enrollment and pass a final oral examination.

### Structure of Program

Core courses include the following:

Research Methodology	3 credits
Statistics	3 credits
Seminar	Three, 1-credit courses

Areas of concentration include:

- Agricultural Economics
- Animal and Poultry Science
- Food and Nutrition
- Natural Resources Science
- Plant and Soil Science
- Agriculture and Extension Education

#### *Thesis Option*

Minimum of **30** credit hours:

Core courses	9
Concentration courses	12
Electives	3
Thesis	6

#### *Non-Thesis Option*

Minimum of **36** credit hours:

Core courses	9
Concentration courses	18
Electives	6
Creative Component	3

### Application Deadlines

Application deadlines are:

**Fall Semester - April 15**  
**Spring Semester - October 30**  
**Summer Sessions - April 15**

### Research Activities

Faculty in the Departments of Agriculture and Human Ecology conduct basic and applied research in each of the concentration areas.

Annual appropriations by the Cooperative State Research Extension and Education Service (CSREES)/USDA and extramural grants support research activities by faculty and graduate students. Faculty in the Departments of Agriculture and Human Ecology maintain close working relations with faculty at the University of Maryland College Park and other 1862 land-grant institutions, the Cooperative Extension Service and the Agricultural Experiment Station. A number of UMES faculty have access to and utilize facilities of the various units that comprise the Agricultural Experiment Station. Scientists with agricultural expertise from other University System of Maryland campuses, the USDA and the Co-op Fish and Wildlife Service may serve on graduate committees for students enrolled in the program. Faculty, staff and students also collaborate with scientists from USDA, as well as from universities outside the University System of Maryland.

### Facilities and Equipment

Faculty in the Departments of Agriculture and Human Ecology maintain office space in Trigg Hall, the Crop and Soil Science Research Building, the Spaulding Building, the Richard A. Henson Center, and the new Food Science and Technology Building.

Biotechnology and radio-immunoassay laboratories and Nutrition laboratories are fully equipped with instrumentation for both basic and applied research. Laboratories in the Crop and Soil Science Building accommodate research efforts in agronomy, plant genetics and breeding, soil science, host-insect interactions, plant pathology and plant-environment interactions.

The UMES teaching and research farm possesses over 200 tillable acres for crop use. State-of-the-art animal facilities include a totally confined 60-sow farrow-to-finish swine unit (which is the only swine research facility operated within the University System of Maryland), a beef cattle farm, a 10,000 and 100,000 bird commercial broiler house, a closed-loop re-circulating aquaculture system and a 2.5 acre greenhouse facility.



Two computer laboratories (Trigg Hall and Richard A. Henson Center) are equipped with Gateway or Gateway compatible computers, laser jet printers, a color printer, color scanner, an auto-cad system, and various software for word processing, desktop publishing, graphics, spreadsheets, econometrics and other statistical work. These laboratories and the new Food Science and Technology building are connected to the UMES mainframe with capabilities for networking throughout the campus, state, region and nation.

### Description of Courses

(NOTE: Credit Hours are given in parentheses)

### Core Courses

#### **AGSC 600, 601, 602 Agricultural Sciences Seminar (1)**

Students report on and discuss recent literature and current investigations relative to the Food and Agricultural Sciences and preparation of reports on selected topics. Repeatable credit. Minimum of three (3) credit hours required.

#### **AGSC 605 Statistics in Agricultural Research (3)**

Emphasis is placed on techniques and application of statistical and experimental design, data acquisition, analyses, interpretation and presentation as it applies to Agricultural Sciences.

#### **AGSC 691 Research Methodology in the Agricultural Sciences (3)**

Students will learn the basic principles of research methodology. Emphasis will be placed on techniques used in identifying problems, forming hypotheses, constructing and using data-gathering instruments, designing research studies, and employing statistical procedures to analyze data.

#### **AGSC 799 Master's Thesis Research (1-6)**

### Agricultural Economics Courses

#### **AGEC 423 Marketing Agricultural Products (3)**

Discussions in this course emphasize characteristics of the demand for and supply of farm products, alternative marketing channels, services and costs involved in marketing.

#### **AGEC 453 Agricultural Finance (3)**

Agricultural finance in farm firms and financial institutions is studied, emphasizing financial reports and analysis, liquidity and risk. Also studied are the use of credit and other financial alternatives to acquire control of farm resources, credit sources and acquisition of capital, and decision-making.

#### **AGEC 463 Agricultural Policy (3)**

This course explains current policy issues, policy instruments and choices in U.S. agriculture. It also describes the economic characteristics and problems of agriculture, evolution and significance of agricultural policies, the international dimension and domestic policies that affect agriculture.

#### **AGEC 613 Quantitative Methods in Agricultural Economics (3)**

The course addresses formulation, estimation, and testing of economic models, interaction between economic problems and specification of econometric models.

#### **AGEC 623 Advanced Agricultural Marketing (3)**

Emphasis in this course is placed on marketing theory, market structure conduct and performance, economics of control, interregional trade theory, governmental regulation and policy, and bargaining in agricultural markets.

#### **AGEC 633 Advanced Agricultural Price Analysis (3)**

Topics in this course include demand and price structures, price discovery, time series and agricultural price research methods, techniques for evaluating marketing behavior, market legislation and market development.

#### **AGEC 653 Advanced Agricultural Finance (3)**

Financial structure of agriculture, firm financial planning and management, financial intermediation in agriculture and agricultural

finance in developing countries are the topics that are discussed in this course.

**AGEC 663 Agricultural Policy and Rural Resource Development (3)**

This course focuses on current issues in agricultural policy and rural resource development, application of welfare criteria and economic analysis to agriculture, food and rural development problems and policies.

**AGEC 680 Individual Studies in Agricultural Economics (1-3)**

The student is required to produce a scholarly paper, which provides a critique of a selected topic in Agribusiness related areas. This can be used to satisfy the "creative component" requirement for students pursuing the non-thesis option.

**AGEC 713 Economics of Agricultural Production (3)**

Students learn about the use and application of production economics in the agricultural industry through graphical and mathematical approaches.

**AGEC 773 Seminar/Group Study in Research Methods (3)**

Students will be required to develop and present a thesis prospectus for this course, to include principles and application of the scientific method in developing a research proposal, data collection management and analysis, and thesis writing.

**AGEC 813 Advanced Microeconomic Theory (3)**

This is an advanced treatment of the theory of prices and markets. Discussions focus on analysis of the theory of the household and the firm, concepts of general equilibrium and welfare economics, and principles of efficient and equitable allocation of resources.

**AGEC 814 Advanced Macroeconomic Theory (3)**

This is an advanced treatment of an economy's overall performance, including fluctuations in economic activity, causes of inflation and unemployment, impact of fiscal and monetary policies on the economy's aggregate output.

**Animal and Poultry Science Courses**

**ANPT 424/624 Animal and Avian Health and Diseases (4)**

The study of parasitic, viral, bacterial and protozoal diseases of mammalian and avian species will be covered. Methods of disease prevention, control and eradication will also be discussed.

**ANPT 611 Poultry Diseases and Hygiene (4)**

Students will study the parasitic, viral, bacterial and protozoan diseases of domestic poultry. Methods of disease prevention, control and eradication will also be discussed.

**ANPT 614 Advanced Animal Avian Physiology (4)**

This course covers an in depth presentation of major organ systems and their interaction in the maintenance of homeostasis.

**ANPT 621 Applied Poultry Nutrition (3)**

Students will learn how to apply the basic principles of nutrition to the avian species. Nutritional requirements of poultry, deficiency diseases, least cost formulations and effects of environment on avian nutrition will also be discussed.

**ANPT 622 Analytical Laboratory Methods (2)**

The application of analytical laboratory techniques used in biomedical research will be explored.

**ANPT 634 Advanced Animal and Avian Diseases (4)**

Students will study the nutritional and metabolic diseases and the isolation and cultivation of macro and microscopic parasites inclusive of gross and microscopic pathology.

**ANPT 642 Advanced Non-Ruminant Nutrition (3)**

The application of basic principles of nutrition to commercial non-ruminant animals will be discussed. Factors affecting nutritional requirements, effects of environment on

nutrition and least cost formulations will also be covered.

**ANPT 680 Individual Studies in Animal and Poultry Science (1-3)**

The student is required to produce a scholarly paper, which provides a critique of a selected topic in Animal and Poultry Science. This can be used to satisfy the "creative component" requirement for student pursuing the non-thesis option.

**Food and Nutrition Courses**

**NUTD 600 Pre-professional AP-4 Practice Program in Dietetics (1-5)**

This is an in-service course restricted to dietitians.

**NUTD 640 Nutrition & Human Development (3)**

The course covers the role of nutrients in physiological systems and biochemical processes as related to the perspective of human growth and development across the lifespan.

**NUTD 642 Nutritional Counseling (3)**

Assessment, planning, implementation and evaluation of nutritional counseling and educational techniques are examined.

**NUTD 644 Special Problems in Nutrition (3)**

This is an assessment of nutritional status and needs of various groups such as the aged, infants and children and adolescents. Emphasis is placed on development and management of nutrition programs to meet specific needs through the actions of community agencies.

**NUTD 646 Clinical Nutrition (3)**

Metabolism in disease and the adaptation of diet in the treatment or prevention of disease are studied.

**NUTD 650 Intermediary Metabolism (3)**

The course covers the major routes of carbohydrates, lipids and protein metabolism with particular emphasis on metabolic shifts and their detection and significance.

**NUTD 654 Nutritional Biochemistry (4)**

The course reviews recent developments in nutritional sciences designed to acquaint students with laboratory procedures in nutritional biochemistry and physiology, including the identification and measurements of nutrients and their metabolites in foods, tissue and body fluids and human and animal experiments in nutrition. Special emphasis is placed on the relationship between biochemistry and nutrition.

**NUTD 656 Nutrition Laboratory (1-3)**

Digestibility studies are conducted with ruminant and monogastric animals. The proximate analysis of various food products and feeding trials are used to demonstrate classical nutritional deficiencies in laboratory animals.

**NUTD 660 Protein and Amino Acids in Nutrition (3)**

This is an advanced study of the roles of amino acids in nutrition and metabolism. Protein digestion, absorption, anabolism, catabolism and amino acid balance are examined.

**NUTD 664 Vitamin and Mineral Metabolism (3)**

This is an advanced study of the fundamental role of vitamins in nutrition, including chemical properties, absorption, metabolism, excretion and deficiency syndromes. Basic nutritional data on minerals are presented.

**NUTD 670 Advanced Food Safety (3)**

The course emphasizes current trends in a number of areas: food safety and emerging food borne pathogens, regulating food safety, traditional and rapid microbiological methods, relationship of environmental factors to occurrence, growth and survival of microorganisms in foods, mechanisms of control, HACCP, risk assessment, sanitation and food safety education. Special emphasis is placed on actual food borne outbreaks. **Prerequisite: BIOL 301 or AMIC 324 or permission of the instructor.**

**NUTD 680 Individual Studies in Food & Nutrition (1)**

The student is required to produce a scholarly paper which provides a critique of a

selected topic in Food and Nutrition. This can be used to satisfy the "creative component" requirement for students pursuing the non-thesis option.

### Natural Resources Science Courses

#### **NRES 683 Principles of Watershed Management (3)**

This is a course designed to acquaint students about how watersheds work, how they are managed, and how their management affects the ecology of the Chesapeake Bay, Coastal Bays and the Atlantic Ocean. **Prerequisites: CHEM 111, CHEM 113, BIOL 111, BIOL 113, SOIL 203, AGRN 423; or consent of instructor.**

#### **NRES 404/BIOL 404 Conservation Biology (3)**

This course is a multi-disciplinary approach to conservation of natural resources. Course topics examine basic genetic and ecological principles, importance of biodiversity, concept of island biogeography as it applies to the course topic, endangered species conservation, and the value of protected areas. Strong emphasis will be placed on sociological, economic, and political components of conservation. Students will prepare three written reports on current conservation issues. **Prerequisites: BIOL 111, BIOL 113, BIOL 112, BIOL 114, BIOL 402 or consent of instructor.**

#### **NRES 473/673 Ornithology (3)**

This course covers general biology, taxonomy, and natural history of birds, with an emphasis on North American families. Cross-listed with NRES 473. **Prerequisites: BIOL 111, BIOL 113, BIOL 112, BIOL 114 or consent of instructor.**

#### **AGRN 483 Principles of Geographic Information Systems (3)**

This course is designed to provide students with an overview of the applicability and use of Geographic Information Systems (GIS); students will become competent with ArcView<sup>®</sup>, a GIS software package from Environmental Systems Research Institute (ESRI), Inc. Students will also learn the basics

of data management, data accuracy, spatial analysis, and data presentation.

#### **ANPT 403/NRES 403 Advanced Aquaculture (3)**

The course covers the fundamentals of commercial fish and other marine animal production, including principles of pond and tank production, management, nutrition and disease.

#### **BIOL 431 Mammology (4)**

This course is a detailed investigation of mammal biology, with emphasis on special physiological and ecological adaptations, ecological specializations and biogeography of mammals.

#### **ENVS 684 Natural Resource Management (3)**

Discussions revolve around the availability, use, abuse, depletion and pollution of various natural resources humans need for survival. The cost-benefit analyses and systems management concepts for natural resource conservation enabling us to save the "earth" for future generations will be addressed. **Prerequisites: B.S. in Biology, Chemistry, Environmental Science, Agricultural Sciences or consent of the instructor.**

#### **BIOL 688F Fish Physiology (1-4)**

This is an overview of fish physiology, which fishery biologists and others can supplement with readings in current texts, reviews and research articles. Applicable points of general and comparative physiology are included. Summaries of important anatomic considerations are included where relevant, but the course is primarily for those who have already completed courses in general physiology, chemistry, biochemistry and fish anatomy. It is an IVN offered course.

#### **CHEM 670 Advanced Biochemistry (3)**

The course covers the classification, chemistry and metabolism of protein, amino acids, carbohydrates and lipids. **Prerequisite: One semester of Biochemistry.**

#### **NRES 799 Master's Thesis Research (1-6)**

## **Plant and Soil Science Courses**

### **AGRI 615 Advances in Plant Genetics and Breeding (3)**

Discussion of special topics in genetics and breeding for resistance to pest and other stress factors are covered.

### **AGRI 625 Plant, Soil-Water Relationships (3)**

This course involves a study of soil biology, ecology, root morphology and anatomy affecting mineral nutrition and plant-water relations.

### **AGRI 638 Advanced Horticultural Crop Production (3)**

Physical, chemical and biological factors affecting horticultural crops will be covered. Emphasis will be placed on post-harvest physiology.

### **AGRI 684 Recombinant DNA Technology (3)**

This is a laboratory course to introduce the basic principles of gene cloning, give essential background on working with *E. coli*, utilize different cloning systems and employ methods utilized for DNA sequencing.

### **AGRN 423/653 Soil Fertility (3)**

This course provides an in-depth knowledge of relationships of soil mineralogy, texture, organic matter and pH to soil fertility. The use of organic and commercial fertilizers in crop production, and their effects on the environment are emphasized and explored.

### **AGRN 623 Advanced Soil Chemistry (3)**

This course provides an in-depth knowledge of clay-mineral properties and use of x-ray diffraction and electron micrographic analysis in their identification. The impact of clay-colloid chemistry in every day life and special topics in soil chemistry related to clays and clay minerals are also explored.

### **AGRN 633 Soil Water Pollution (3)**

This course is designed to provide students with knowledge of the reaction and fate of pesticides, agricultural fertilizers, industrial and animal wastes in soil and water. Their

relationship to the environment is heavily emphasized.

### **PLSC 474/674 Plant Pathology (4)**

The course will examine causes of diseases in agronomic and horticultural crops to include symptom and sign recognition, isolation, enumeration and management of diseases in the landscape and field crops. Lab exercises will include preparation of a journal-type manuscript based on an individual research project. Cross-listed with PLSC 474.

### **PLSC 603 Ecology of Plant-Microbial Systems (3)**

The course provides an in-depth study of the degradation of pollutants in plant-microbial systems and the role of plant-microbial interaction on the attenuation of environmental contaminants. Plant and microbial-mediated mechanisms of pollutant transformation will be covered. The role the rhizosphere as a unique environment for the detoxification of aggressive compounds will be emphasized.

### **PLSC 606 Crop Physiology and Ecology (3)**

This course involves in depth discussion of ecological factors affecting crop growth, development and productivity.

### **PLSC 680 Individual Studies in Plant and Soil Science (1-3)**

The student is required to produce a scholarly paper, which provides a critique of a selected topic in Plant and Soil Science. This can be used to satisfy the "creative component" requirement for students pursuing the non-thesis option.

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**For information on this program, please contact:**

Graduate Coordinator - Food and Agricultural Sciences Program  
Trigg Hall, Room 1107  
University of Maryland Eastern Shore  
Princess Anne, Maryland 21853

## FOOD SCIENCE & TECHNOLOGY

### Program Objective

The overall objective of the program is to provide the Eastern Shore, the State of Maryland, and the nation with individuals holding the Ph.D. degree in Food Science and Technology (FDST) who have the knowledge and competencies to fill critical employment needs in scientific and technological areas in this discipline. Specially, the program aims:

1. To meet the need for highly trained food scientists including food safety professionals by providing a multi-disciplinary education and intensive research experiences in food science and technology;
2. To provide in the Land Grant tradition a national and international Center of Excellence in Food Science and Technology that will be used for teaching, research and outreach to include the education and training of personnel who are or will be involved in the food related sectors of agriculture;
3. To create new opportunities and training for UMES students to develop their skills and competencies in problem solving, critical and analytical thinking, and communications, with an emphasis on food safety and food quality systems.

### Admission Requirements

Regular Admission may be granted to applicants with a baccalaureate and a Master's degree (thesis option) in either food science or related disciplines (nutrition, microbiology, chemistry, biology, animal and poultry science, environmental science, plant and soil science, veterinary medicine, etc.). GRE scores (General Test) may also be considered.

Applicants may be considered for admission into the Ph.D. program with a minimum of 30 credit hours beyond the B.S. degree, or only the B.S. degree, and may be admitted 1) on a provisional basis with final acceptance to the Ph.D. program contingent upon successful completion of a probationary period, usually the second semester after matriculation, and on the recommendation of the student's Graduate Committee; or 2) admitted to Regular Status based on a high GPA (3.5/4.0), strong background in the food sciences and great

potential demonstrated in GRE scores (General Test), and strong support of recommenders that the applicant has the ability to complete the doctoral degree.

Provisional Admission may be granted to applicants with the baccalaureate and the Master's degree, or the baccalaureate degree, who need prerequisite coursework or are pending award of the Master's degree (See Graduate School subsection on Provisional Admission status). International students must take the Test of English as a Foreign Language (TOEFL) and score a minimum of 550. International applicants must also submit documentation that they will be financially able to support their studies.

Additionally, to be admitted to the FDST program, each applicant must submit a brief description of his or her intended dissertation research proposal with the completed application package. If admitted, the student in consultation with his or her academic adviser and Graduate (dissertation advisory) Committee, will decide on the research proposal. The FDST Executive Committee will subsequently review the dissertation proposal to determine the appropriateness of the intended research for the FDST program.

### Application Deadlines

Fall Semester - April 15  
Spring Semester – October 30  
Summer Sessions – April 15

### Program Retention and Graduate Committee Role

The program requires completion of a dissertation as partial fulfillment for the doctoral degree. Each student is initially assigned a major advisor who is responsible for advising the student on all aspects of the student's progress throughout the program.

The major advisor must be a Regular member of the University of Maryland Eastern Shore Graduate Faculty.

The student must have a major professor (Regular Graduate Faculty Status) and select a Graduate Committee no later than the end of the second semester of enrollment. Before the end of the second semester of enrollment, each student's program of study is planned in consort with the major professor (advisor) and the

Graduate committee, including any transfer credits to be applied to the degree program. The Graduate committee must have five members, three of whom must hold UMES Regular or Associate Graduate Faculty status membership, and a majority of the Committee must be UMES full-time faculty in academic departments. The major professor chairs the committee. Annual student progress reviews will be conducted by the committee to ensure satisfactory progress of students toward degree completion. All students must maintain a cumulative 3.0 GPA, pass a written and an oral comprehensive examination and complete degree requirements, including dissertation within seven years of initial enrollment if full-time, otherwise nine years if part-time.

### Exit Degree Requirements

The Ph.D. requires a minimum of 36 credits beyond the M.S. level (or 66 credits minimum beyond the baccalaureate degree), with at least 24 credits of course work and 12 credits of dissertation research; those with only a Bachelor's degree will need additional coursework to meet the 66 credits minimum. Of the minimum 24 credits of course work, there are 9 credit hours of core courses and 15 credit hours of electives. Twelve credits of course work must be at the 600 level or above. Formal application for advancement to candidacy in the doctoral program requires successful completion of both the comprehensive examinations and an oral defense of the dissertation proposal. The Graduate Committee administers the comprehensive examinations, defense of the dissertation proposal, oversees the student's dissertation research, and administers the dissertation seminar and final dissertation defense (see the Graduate School's Established Procedures for Conduct of the Doctoral Dissertation Defense in this catalog).

Full-time students must be advanced to candidacy, i.e., taken and passed the comprehensive examinations and dissertation proposal defense no later than four years after matriculation. Part-time students follow the Graduate School's time limits for doctoral degrees (5 years to Advancement to Candidacy, 4 years to final dissertation submission).

Students should consult for further information, specifics and forms the booklet

Guidelines for the Graduate Degree Programs in Food and Agricultural Sciences and Food Science & Technology; the Graduate School booklet on Guidelines for Graduate Student Academic Advisement, and the sections in the catalog on the Graduate School Requirements Applicable to the Ph.D. Degree, the Established Procedures for Conduct of the Doctoral Dissertation Defense, Minimum Registration Requirements, Minimum Registration Requirements for Doctoral Candidates and Dissertation Research.

### Credit Requirements and Distribution

#### Core Requirements: (9)

- FDST 700 Seminar in Food Science and Technology (1)
- FDST 701 Seminar in Food Science and Technology (1)
- FDST 702 Seminar in Food Science and Technology (1)
- AGSC 605 Statistics in Agricultural Research (3)
- AGSC 691 Research Methodology in the Agricultural Sciences (3)

#### Dissertation: (12)

- FDST 899 Doctoral Dissertation Research (1-12)

#### Electives: (Select 15 credits from the list below)

- AGRI 684 Recombinant DNA Technology (3)
- ANPT 622 Analytical Laboratory Methods (2)
- ANPT 611 Poultry Diseases and Hygiene (4)
- ANPT 614 Advanced Animal and Avian Physiology (4)
- ANPT 624 Animal & Avian Health and Diseases (4)
- ANPT 634 Advanced Animal and Avian Diseases (4)
- BIOL 601 Environmental Microbiology (4)
- CHEM 670 Advanced Biochemistry (3)
- CHEM 621 Advanced Environmental Chemistry (4)
- CSDP 604 Computer Methods in Statistics (3)

- CSDP 658 Computer Applications in Agriculture (3)
- ENV5 641 Environmental Toxicology (3)
- FDST 493 Food Chemistry (3)
- FDST 692 Advanced Food Microbiology (3)
- FDST 801 Food Quality Assurance (3)
- FDST 802 Advanced Food Toxicology (3)
- FDST 805 Special Topics in Food Processing Technology (3)
- NUDT 654 Nutritional Biochemistry (4)
- NUDT 670 Advanced Food Safety (3)

Students not having a prior statistics course will be required to complete a prerequisite statistics course.

Students who have previously completed some core requirement courses will take different courses, or if eligible to transfer a research methods or statistics course will be advised and assisted by the major advisor in identifying an alternate course.

**Course Descriptions (credit hours are in parentheses)**

**FDST 700, 701, 702 Seminar in Food Science and Technology (1)**

This course is designed to build communication skills for graduate students. Presentations, both verbal and written, are prepared and given by students following an extensive review of the technical literature. Seminar topics to be presented include the specific research area of the student as well as more general topics in the food science field. A minimum of three (3) credit hours is required of all students in the program.

**AGSC 605 Statistics in Agricultural Research (3)**

Emphasis is placed on techniques and application of statistical and experimental design, data acquisition, analyses, interpretation and presentation as applied to the Agricultural Sciences.

**AGSC 691 Research Methodology in the Agricultural Sciences (3)**

Students will learn the basic principles of research methodology. Emphasis will be place on techniques used in identifying problems, forming hypotheses, constructing and using data-gathering instruments, designing research studies, and employing statistical procedures to analyze data.

**AGRI 684 Recombinant DNA Technology (3)**

This is a laboratory course to introduce the basic principles of gene cloning, give essential background on working with E.coli, utilize different cloning systems and employ methods utilized for DNA sequencing.

**ANPT 424/624 Animal and Avian Health and Diseases (4)**

The study of parasitic, viral, bacterial and protozoal disease of mammalian and avian species will be covered. Methods of disease prevention, control and eradication will also be discussed.

**ANPT 611 Poultry Diseases and Hygiene (4)**

Students will study the parasitic, viral, bacterial and protozoan diseases of domestic poultry. Methods of disease prevention, control and eradication will also be discussed.

**ANPT 614 Advanced Animal and Avian Physiology (4)**

This course covers an in depth presentation of major organ systems and their interaction in the maintenance of homeokinesis.

**ANPT 622 Analytical Laboratory Methods (2)**

The application of analytical laboratory techniques used in biomedical research will be explored.

**ANPT 634 Advanced Animal and Avian Diseases (4)**

Students will study the nutritional and metabolic diseases and the isolation and cultivation of macro-and microscopic parasites inclusive of gross and microscopic pathology.



**BIOL 601 Environmental Microbiology (4)**

Topics include microbial ecology of plants and animals, aquatic microbial ecology (including medical implications), soil microbial ecology, biodegradation, microbial insecticides, gastrointestinal microbiology, microbiology of foods and environmental problems management. Each student will be required to complete an independent research project. **Prerequisite: General Microbiology**

**CHEM 670 Advanced Biochemistry (3)**

The course covers the classification, chemistry and metabolism of protein, amino acids, carbohydrates and lipids. **Prerequisite: One semester of Biochemistry.**

**CHEM 621 Advanced Environmental Chemistry (4)**

The origin, transport and effects of atmospheric and aquatic pollutants are studied, with emphasis on energy-related pollutants which include coal, oil and synfuels. **Prerequisites: One year of General Chemistry, one semester of Organic Chemistry and one semester of Analytical Chemistry or permission of the instructor.**

**ENVS 641 Environmental Toxicology (3)**

The course covers organisms in the atmosphere, hydrosphere and lithosphere and the effects of foreign chemical and other stress on their health and well-being. **Prerequisites: B.Sc. in Biology, Chemistry or Environmental Science with some background in environmental pollution or consent of the instructor.**

**CSDP 604 Computer Methods in Statistics (3)**

This course is an introduction to the principles and applications of probability and statistics needed in graduate studies in various academic areas and to the computer realization of these methods. The course begins with a brief intensive review of basic statistical principles. **Prerequisites: One Semester of calculus.**

**CSDP 658 Computer Applications in Agriculture (3)**

Current topics include expert systems for small farm applications, farm-record management, and special planning tools for agriculture.

**NUTD 654 Nutritional Biochemistry (4)**

The course reviews recent developments in nutritional sciences, designed to acquaint students with laboratory procedures in nutritional biochemistry and physiology, including the identification and measurements of nutrients and their metabolites in foods, tissue and body fluids and human and animal experiments in nutrition. Special emphasis is placed on the relationship between biochemistry and nutrition.

**NUTD 670 Advanced Food Safety (3)**

The course emphasizes current trends in number of areas: food safety and emerging food borne pathogens, regulating food safety, traditional and rapid microbiological methods, relationship of environmental factors to occurrence, growth and survival of microorganisms in foods, mechanisms of control, HACCP, risk assessment, sanitation and food safety education. Special emphasis is placed on actual food borne outbreaks. **Prerequisite: BIOL 301 or AMIC 324 or permission of the instructor.**

**FDST 493 Food Chemistry (3)**

This course talks about the chemistry of food components including water, carbohydrates, liquids, proteins, vitamins, and minerals, as well as additives including preservatives, colorants, flavors, antioxidants and sweeteners. Functionality and interaction of components and their importance to quality and wholesomeness of foods will be discussed. **Prerequisites: CHEM 212 or permission of instructor.**

**FDST 692 Advanced Food Microbiology (3)**

This course is designed to provide the microbiologist and/or food scientist with extended education and training in food microbiology. Emphasis on spoilage and pathogenic microorganisms in food includes

detection, identification, characterization, and control methods utilized. Ecology and survival strategies of pathogens in foods and virulence mechanisms of food borne pathogens are being discussed. **Prerequisites: BIOL 301 or AMIC 324**

**FDST 801 Food Quality Assurance (3)**

This course provides understanding of food quality control/assurance programs and compliance with government regulation. Topics presented include International Standards for Quality Management Systems, ISO 9000, Good Manufacturing Practices (GMP), Total Quality Management (TQM) and Hazard Analysis Critical Control Point (HACCP). The class also covers factors affecting the quality of food products, such as appearance, flavor, texture, nutritional value, safety and wholesomeness as well as principles of statistical quality control. **Prerequisite: FDST 493**

**FDST 802 Advanced Food Toxicology (3)**

This course emphasizes biological and chemical aspects of toxicology, microbial aspects of food borne infections and intoxications, food additives, toxic substances occurring in food, either naturally or formed during processing, and the toxic effects of these substances on the biological systems. Safety of genetically engineered foods, risk assessment and food safety policy will be discussed as general topics. **Prerequisite: permission of instructor**

**FDST 805 Special Topics in Food Processing Technology (3)**

This course integrates principles of food chemistry, food microbiology, food engineering, nutrition, statistics and sensory evaluation through discussion of food processing operations, such as processing of fruit and vegetables, dairy, seafood, fats and oils, beverages, and chocolate manufacture. Food sanitation, food packaging, and food biotechnology, will be discussed as general topics. **Prerequisites: Permission of instructor.**

**FDST 899 Doctoral Dissertation Research (1-12)**

Repeatable credit.

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**For further information on the FDST program, please contact:**

Jurgen Schwarz, Ph.D.  
Program Director – FDST Program  
Food Science and Technology Building  
University of Maryland Eastern Shore  
Princess Anne, MD 21853

## MARINE-ESTUARINE- ENVIRONMENTAL SCIENCES (MEES)

### INTRODUCTION

The University of Maryland Eastern Shore (UMES) offers graduate programs leading to the degrees of Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) in Marine-Estuarine-Environmental Sciences (MEES). The mission of the MEES Program is to train graduate students in the area of environmental sciences. There is a clear need for scientists with training in this area, given the multitude of environmental problems faced by society today. The interests of students in the program are diverse, but generally center on some aspect of the interaction between biological and physical or chemical systems. The analysis of this interaction may be anything from a study of molecular mechanisms to an assessment of the economics of an environmental impact. To ensure that all students in the program have some understanding of the breadth of information in the field of environmental sciences, each student is required to have course work in a variety of areas.

The interests of faculty and students within the MEES Program have led to six formally defined **Areas of Specialization (AOSS)**, from which a student may choose. The AOSs are: Ecology, Environmental Chemistry, Environmental Molecular Biology and Biotechnology, Environmental Science, Fisheries Science, and Oceanography. Each student will choose an AOS when applying, and both admission and program requirements will depend on the AOS and the student's background and interests.

The strongest concentrations at UMES are in the areas of Ecology, Environmental Chemistry, Environmental Science and Fisheries Science.

### OVERALL DEGREE PROGRAM

#### Admission

Applicants will be considered for admission and advising on all campuses by faculty associated with an appropriate Area of Specialization, based on the applicant's requests. Applicants are free to apply to more than one

AOS, if so desired. Prospective students may apply through either the University of Maryland Baltimore County Graduate School, the University of Maryland Graduate School at College Park, or the Graduate School at UMES. In general, a student who has identified a specific member of the faculty with whom to work should apply to the campus where that faculty member is affiliated. A student may also apply to a particular campus due to geographic considerations. See the UMES address for inquiries and application forms at the end of this section.

Applicants to the MEES Program will be considered at both the M.S. and Ph.D. levels. In the event an applicant to the Ph.D. program has only a B.A. or B.S. degree, admission may initially be to the M.S. program with the final acceptance to the Ph.D. program contingent on successful completion of a probationary period and on the recommendation of the student's Research Advisory Committee. An Admissions Committee from each Area of Specialization has been established to evaluate the applications of prospective students based on the following criteria:

1. The applicant's research interests must be clearly stated and relevant to one or more of the MEES Areas of Specialization.
2. The academic preparation of the applicant must be consonant with stated interests and AOS requirements.
3. The undergraduate GPA must be at least 3.0, although some students with a GPA below 3.0 may be provisionally accepted based on related research or work experience.
4. Applicants must submit the following required documents as part of their application for graduate study in the MEES Program:
  - a. Graduate Record Examination Scores (Only the General Test is required, although one of the Advanced Tests is strongly recommended).
  - b. Transcripts of all college-level work.
  - c. A brief essay clearly defining areas of research interest and research objectives

preferably including the AOS(s) of interest. The essay should be carefully prepared, not in outline form, and will assist with identification of an academic advisor should the applicant be judged admissible.

- d. Three letters of recommendation from persons familiar with the academic work of the applicant.

The initial screening of an applicant's credentials is done by the Admissions Committee of the appropriate AOS(s). Each AOS has course prerequisites (described in subsequent sections); students missing several of these courses may be offered provisional acceptance. Students missing four or more prerequisites will generally not be admitted, and should plan to take some of those courses before re-applying.

Receipt of the application will initiate the search for an appropriate faculty member to serve as the academic advisor for the student. No student will be admitted to the Program for whom an advisor has not been identified in advance. Hence, if prior discussions have taken place between an applicant and a member of the faculty regarding the faculty member's serving as advisor to the student, that fact should be mentioned in the essay accompanying the application. The student will be matriculated on the degree-granting campus of his/her advisor.

Application deadlines are:

**Fall Semester - March 1**

**Spring Semester - September 1**

For international applicants the application deadlines are:

**Fall Semester - February 1**

**Spring Semester - August 1**

### **Advisors and Research Advisory Committees**

Upon admission to the MEES Program, students are assigned to an Academic Advisor. This person will be responsible for advising on all aspects of the student's progress through the program. Any request for a change of advisor must be submitted to and be approved by the

AOS committee and the MEES Program Director (Central Office).

In certain situations, a student may want a second Academic Advisor. This might happen if, for instance, the professor most familiar with the student's work is not a graduate faculty member. In this case, it is possible to set up a Co-Advisor team of two professors who jointly serve in the role of Advisor.

Due to the expected divergent interests and goals of students in the MEES Program, as well as the dispersion of campuses and laboratories, the early formation of a Research Advisory Committee is mandatory to develop an individual program. During the first semester of enrollment in the MEES Program, the student and the Advisor must form this committee and submit its membership to the AOS Committee chairperson for approval. The committee should meet during the first semester, and must make its written recommendations for a program of study before the end of the second semester.

A Master's Research Advisory Committee will consist of three members, all of whom must be Regular or Associate members of a University System of Maryland (USM) campus Graduate Faculty. A Ph.D. Research Advisory Committee must have five members, three of whom must be Regular or Associate faculty as above. The Ph.D. Research Advisory Committee can consist of a minimum of three members, who are UMS graduate faculty, until the Comprehensive Examinations, at which time it must have all five members. The student's Advisor will serve as chair of this committee. The membership of the Research Advisory Committee should not be drawn entirely from a single laboratory or department. Replacement of committee members is expected, as needed, based on the Advisor's recommendation.

The program of study is laid out by the Research Advisory Committee in the first or second semester and will include any missing prerequisites [all prerequisites must be completed within the first year in the program], all required core courses, and any specialized courses the committee believes the student needs. Total required and suggested courses will often exceed the general credit minimum (30 for M.S. and 36 for Ph.D.). The program of study must then be approved by the appropriate MEES AOS Committee.

The Research Advisory Committee is responsible for initial approval of the student's area of research. Once the student has chosen an area of research, a proposal should be written up and discussed with the Research Advisory Committee. This preliminary research proposal should be brief (3-5 pages), but should cover as specifically as possible the student's research interests. Students in the Ph.D. program will later develop a more comprehensive research proposal which they must defend before advancement to candidacy. Students in the M.S. program will develop a more complete Thesis Proposal to submit to their Research Advisory Committee as described below. The approved preliminary proposal should be filed with the MEES Program Director's office by the end of the second semester following entry into the MEES Program.

An M.S. student's Research Advisory Committee will approve the Thesis Proposal and the Thesis Defense. Master's students are not required to take Comprehensive Examinations.

For Ph.D. students, the Research Advisory Committee will administer the Defense of the Dissertation Proposal, oversee the student's research, and administer the Dissertation Defense. Once formulated, the names of the Research Advisory Committee members must be submitted to an AOS Committee Chairperson for approval.

Annual progress reviews will be conducted through the MEES Central office and the AOS committees to ensure satisfactory progress of MEES students toward degree completion.

### **Master of Science Requirements**

The specific requirements for the M.S. degree in MEES are as follows:

#### **1. Course Work**

- a. A minimum of 30 credits with 24 credits of course work and 6 credits of graduate research. Of the 24 course credits, 12 of them must be at the 600 level or higher. Exceptions and waivers for equivalent courses taken before entry may be used to meet requirements of the student's AOS upon approval by the appropriate AOS Committee. Although graduate courses taken elsewhere

may serve to fulfill AOS requirements, only six credits from such courses may be identified as transfer credits. Courses used to fulfill requirements for a previously awarded degree cannot be used for transfer credits.

- b. One seminar course (MEES 608 or equivalent) must be taken for each year in residence (on average); total of 2.
- c. One approved Statistics course (400 level or higher).
- d. One graduate course representing significant interdisciplinary breadth, preferably outside the student's AOS.
- e. One course or seminar in Environmental Management (a 3-4 cr. course can satisfy 'd' above).

#### **2. Thesis Defense**

An oral defense of the Thesis, administered according to Graduate School procedures (see section, pp.31-34), will take place at the completion of the research project. This defense will be conducted by the Research Advisory Committee and will be administered once all other degree requirements have been fulfilled. The Thesis Defense will generally last no longer than two hours, but the time will be long enough to ensure an adequate examination. The Research Advisory Committee also approves the thesis, and it is the candidate's obligation to see that each member of the committee has at least *two weeks* in which to examine a copy of the thesis prior to the time of the defense. The Research Advisory Committee may conclude that the candidate has passed or failed. A student may be conditionally passed with the provision that minor changes in the thesis be made by the student and approved by the Major Advisor. A student who fails may, at the discretion of the committee, be permitted to stand a second defense after acting on suggestions for improvement of the thesis (e.g., collection of more data, use of different statistical analysis, rewriting of the discussion, etc.), at such time as the advisor considers appropriate. Once the thesis has been successfully defended, one copy must be supplied to the UMES MEES Office in addition to the copies required by the Graduate School.

## **Doctor of Philosophy Requirements**

The specific requirements for the Ph.D. degree are as follows:

### **1. Course Work**

- a. The student must complete a minimum of 36 credits, with at least 24 credits of coursework and 12 credits of dissertation research. Twelve credits of coursework must be at the 600 level or above. Course work completed to fulfill a USM Master's degree can be applied against this requirement, so may certain course work from another institution as described above under the Master's degree requirements. Credits used to obtain a M.S. degree at a USM campus or elsewhere cannot be transferred to the Ph.D. program. However, if a student has completed a M.S. degree, up to 16 credits of appropriate courses can be waived by petition to the AOS committee.
- b. One seminar course (MEES 608 or equivalent) is required for each year in residence (on average); total of 4.
- c. One approved Statistics course (600 level or higher).
- d. One graduate course representing significant interdisciplinary breadth, preferably outside the student's AOS.
- e. One course or seminar in Environmental Management (a 3-4 cr. course can satisfy 'd' above).

### **2. Examinations**

Formal application for advancement to candidacy for the doctoral degree requires successful completion of both a Comprehensive Examination and an oral Defense of the Dissertation Proposal. The Comprehensive Examination must be passed before the student can defend the Dissertation Proposal.

#### **a. Comprehensive Examination**

The MEES Program central office has both general MEES and specific AOS committee guidelines available for comprehensive examinations.

The Research Advisory Committee is responsible for administering the comprehensive examination. Since this examination must be successfully completed before the dissertation proposal can be defended, it is in the student's best interests to take the Comprehensive Examination as early as possible in the Program. The exam must be taken by the end of the student's fifth semester. This examination is intended to determine whether the student demonstrates sufficient evidence of scholastic and intellectual ability in major and related academic areas. The examination will not be a defense of the research proposal. Areas of the examination will be chosen by the student from a general list formulated by the AOS Committee. One area of the examination must be chosen for interdisciplinary breadth (e.g., relating to the interdisciplinary course from the core curriculum).

The examination will include a combination of written and oral sections. The Research Advisory Committee will determine whether the student passes (a minimum of four affirmative votes is required), or fails. If failed, the examination may, at the recommendation of the Research Advisory Committee, be taken again. In this case the exam should be repeated within one year, but no sooner than six months, after the initial examination. If the exam is failed a second time, matriculation will be cancelled. The MEES Program Director's office must be notified at least two weeks in advance of the pending examination. A report of the examination will be filed with the Director's Office following the examination.

The USM interactive video network system may be used for oral comprehensive examinations and dissertation proposal defenses but all committee members, the student and the Graduate Dean must agree to this use. Phone/conference calls are not acceptable alternatives.

#### **b. Dissertation Proposal Defense**

The Proposal Defense is an oral examination on the research proposal administered by the Research Advisory Committee. At least two weeks prior to the examination, the student must supply the committee members with a formal research proposal in which is detailed: background

information, research progress to date (if any), specific objectives, and experimental design of the proposed research. The committee is expected to examine the student on all aspects of the proposed research to determine whether the research plan is sound, and whether the student has the proper motivation, intellectual capacity and curiosity, and has, or can develop, the technical skills necessary to successfully pursue the Ph.D. degree. The student passes if there are at least four affirmative votes. If failed, the student must re-defend the proposal within one year. A second failure will result in cancellation of matriculation.

The research proposal should be defended within one year of passing the Comprehensive Examination and at least one year before projected completion of the degree requirements. The MEES Program Director's Office must be notified of the pending examination several weeks prior to its administration, and a report of the examination must be filed with the Director's Office following the examination.

At the successful completion of this defense, the student officially applies for candidacy for the Ph.D. degree and should submit the necessary forms in duplicate to the UMES MEES Program office for transmission to the UMES Graduate School. Students must be admitted to candidacy at least two semesters prior to the Defense of the Dissertation (final defense).

c. **Dissertation Seminar and Defense of the Dissertation Research**

A candidate for the Ph.D. degree will present a public seminar on the dissertation research during the academic year in which the degree will be awarded. The seminar should, under normal circumstances, be given within five weeks in advance of the day of the oral final examination. The student and the Advisor will be responsible for initiating arrangements through the UMES MEES Office for the date and advertisement of the seminar. The seminar will be open to faculty, students, and other interested parties.

The final oral defense of the dissertation is conducted by a committee of the graduate faculty appointed by the Graduate School (this is usually the Research Advisory Committee plus a

Graduate School representative). Nominations for membership on this committee are submitted on the designated form to the UMES Graduate School by the student's Advisor. This is done by the third week of the semester in which the student expects to complete all requirements, but no later than two months prior to the dissertation. The time and place of the examination are established by the chair of the committee. The student is responsible for distributing a complete, final copy of the dissertation to each member of the committee at least two weeks before the examination date. Announcement of the final examination will be made through the UMES MEES Office to all members of the MEES faculty at least two weeks prior to the examination. All final oral examinations are open to all members of the graduate faculty and students, although only members of the examining committee may question the candidate. After the examination, the committee deliberates and votes in private. Two or more negative votes constitute failure. The student may be examined no more than twice.

Following successful completion of the final examination, a final copy of the dissertation must be supplied to the UMES MEES Office, in addition to those required by the UMES Graduate School.

## **AREAS OF SPECIALIZATION**

### **ECOLOGY**

The MEES Program provides access to a strong curriculum of interdisciplinary graduate training and research in ecology. Within this Area of Specialization, numerous scientists throughout the University System of Maryland (USM) are actively involved in teaching and research, with collaboration common between these scientists and those in the other areas of MEES.

Ecology is a broad discipline encompassing both terrestrial and aquatic environments. Specific areas of study include behavioral, community, evolutionary, marine, benthic, limnological, systematic, and physiological ecology. Variations and/or combinations of one or more of these subdisciplines are common (e.g. marine benthic community ecology as one area of study, or the

evolution of terrestrial communities as another). Students successfully completing this Area of Specialization could go on to academic appointments in a variety of departments (e.g. Environmental Sciences, Ecology, Biology, Zoology, Botany, etc.), or work for environmental consulting companies, as well as federal or state government agencies.

Due to the nature of the MEES Program, heavy emphasis is placed on the student's unique research goals in this AOS. As such, core course requirements are kept to a minimum. The remainder of a student's course load is determined by that student and his or her Research Advisory Committee on the basis of the individual's research topic and previous academic experience. The University System of Maryland (USM) has a wide and diverse set of course offerings in ecology and related areas, so it should be possible for students in almost any area of ecology to create a beneficial program of study.

The MEES Program ecology faculty believe that graduate students should be well-trained in the following five important areas:

- 1) Scientific method and experimental design.
- 2) Statistical methods and use of computers for statistics, database manipulation, and modeling.
- 3) Ecological theory and mathematical modeling.
- 4) Field techniques in ecology.
- 5) Scientific writing.

#### **Prerequisites:**

A Bachelor's degree with courses equivalent to an undergraduate General Biology degree, including:

1. Two semesters of Calculus
2. Two semesters of Introductory Chemistry
3. Two semesters of Organic Chemistry or Biochemistry
4. Two semesters of Physics
5. Two semesters of Introductory Biology (or high placement test, high advanced GRE scores)
6. One Ecology course and two other Advanced Biology courses

#### **Core Courses and Other Requirements (M.S. and Ph.D.):**

1. Population Biology - including mathematical modeling (600 level, 3-4 cr.)
2. Ecosystem Ecology and/or Community Ecology (600 level, 3-4 cr.)
3. A specialized field or laboratory-based Ecology course (600 level, 3-4 cr.)
4. A 400 or 600 level course from one of the other MEES AOS's (from an approved list)
5. A course in Statistics/Biostatistics (600 level for the Ph.D., 400 level for the M.S.)
6. One graduate level seminar for each year in residence (on average)
7. One course or seminar in Environmental Management (a 3-4 cr. course can satisfy '4' above) (400 or 600 level, 1-4 cr.).
8. Courses in Experimental Design and Analysis and in Scientific Writing are also strongly recommended.

#### **ENVIRONMENTAL CHEMISTRY**

The objective of the Environmental Chemistry Area of Specialization (AOS) is to train research scientists to apply basic chemical principles to the study of the environmental behaviors of natural and anthropogenic chemicals. Environmental chemistry includes interdisciplinary studies of various realms such as geochemistry, transport processes, and toxicology to determine the fate and effects of chemicals in the natural environment.

As both the Master's and Ph.D. are research-oriented programs, emphasis is placed on learning and applying the scientific method, understanding statistical techniques, and developing effective scientific writing skills. Students graduating from MEES through this AOS will find professional positions in federal, state and local government agencies (such as EPA, FDA, NIH), private chemical and manufacturing industries, academic institutions, and consulting firms.

#### **Prerequisites:**

A Bachelor's degree in the natural sciences or engineering, including:

1. Two semesters of Calculus
2. Two semesters of Physics



3. Two semesters of General Chemistry
4. Two semesters of Biology
5. Two semesters of Organic or other Advanced Chemistry (e.g. Biochemistry).

**Core Courses and Other Requirements (M.S. and Ph.D.):**

1. One course in Environmental Chemistry or Geochemistry (400 or 600 level, 3-4 cr.)
2. One course in Physical Transport Processes (400 or 600 level, 3-4 cr.)
3. One course in Aquatic Toxicology/Ecology (400 or 600 level, 3-4 cr.)
4. One 400 or 600 level course from one of the other MEES AOSs (from an approved list)
5. One course or seminar in Environmental Management (a 3-4 cr. course can satisfy '4' above)(400 or 600 level)
6. A course in Statistics/Biostatistics (600 level for the Ph.D., 400 level for the M.S.)
7. One graduate level seminar for each year in residence (on average).
8. One or more courses in Physical Chemistry are strongly encouraged (2-4 cr. each).
9. Courses in Experimental Design and Analysis and in Scientific Writing are also recommended.

**ENVIRONMENTAL MOLECULAR BIOLOGY/BIOTECHNOLOGY**

Molecular approaches pervade every biological discipline, and each MEES campus boasts distinguished, energetic faculty that emphasize molecular mechanisms of ecological interactions and dynamics. Expertise includes molecular endocrinology of fish growth, development and reproduction; methods of drug delivery; environmental stressors contributing to fish physiological dysfunction and oncogenesis; mechanisms and stressors of nitrogen fixation; molecular models of marine surface colonization; molecular cues of organism-organism interaction, and invertebrate immunity. Faculty in this area frequently study macromolecular-environmental interactions using recombinant DNA and hybridoma approaches. The Environmental Molecular Biology/ Biotechnology Area of Specialization encourages interaction between campuses, and is synergistic with other AOSs.

Several campuses in the University System of Maryland (USM) have facilities specializing in Molecular Biology and Biotechnology. The Center of Marine Biotechnology (COMB) of the University of Maryland Biotechnology Institute (MBI) has state-of-the-art facilities in the new Christopher Columbus Center on Baltimore's Inner Harbor. The University of Maryland's campuses at Baltimore and Baltimore County have eminent scientists in cellular and molecular biology, many with interests in the environmental sciences. On the University System's largest campus at College Park, numerous MEES faculty and laboratories work in such areas as soil and aquatic microbiology; and molecular and cellular biology, ecology, immunology, and physiology.

**Prerequisites:**

A Bachelor's degree in the natural sciences or engineering including:

1. Four semesters of Biology including Biochemistry
2. Two semesters of Physics
3. Four semesters of Chemistry
4. Two semesters of Math, including Calculus.

**Core Courses and Other Requirements (M.S. and Ph.D.):**

1. One course in Molecular Biology/ Genetics (600 level, 2-4 cr.)
2. One course in Cell Biology/Physiology (600 level, 2-4 cr.)
3. One course in Ecology (400 or 600 level, 3-4 cr.)
4. One course in Advanced Chemistry/ Biochemistry (400 or 600 level, 2-4 cr.)
5. One 400 or 600 level course from one of the other MEES AOSs (from an approved list, 2-4 cr.)
6. One course or seminar in Environmental Management (a 3-4 cr. Course can satisfy '5.' above) (400 or 600 level)
7. A course in Statistics/Biostatistics (600 level for the Ph.D., 400 level for the M.S.)
8. One graduate level seminar for each year in residence (on average)
9. Courses in Experimental Design and Analysis and in Scientific Writing are also recommended

**Note:** For the M.S. degree, only three of the first four requirements must be fulfilled (Nos. 5 through 8 are required by all students).

## ENVIRONMENTAL SCIENCE

This Area of Specialization provides broad training in the environmental sciences. It is clear that some students do not want to specialize to the extent the other Areas of Specialization require, but would like to gain experience and take courses in a variety of scientific, economic, and social disciplines related to the natural environment. These requirements are also very appropriate for students wishing to specialize in environmental management.

The relevant graduate training will provide advanced courses in five distribution areas:

1. **Biology** - Courses in the biological sciences in which the emphasis is on ecology, especially at the population, community, and ecosystem levels.
2. **Chemistry** - Courses in chemistry as applied to organisms or to the environment, with an emphasis on pollution/environmental toxicology courses.
3. **Physical Sciences and Technology** - Courses dealing with the physical world or with the application of physical principles or technology to biological or environmental problems.
4. **Management, Economics, and Policy** - Courses dealing with the interaction of economic, legal, political, and/or social institutions with the biological, chemical or physical environment.
5. **Statistics** - Courses with strong emphasis on problem solving, prediction, or modeling.

### Subprogram in Environmental Management: Science and Policy

The primary content of this option within the Environmental Science AOS will

focus on developing professionals in the field of environmental management, at the M.S. and Ph.D. levels. Students successfully completing this degree will normally pursue careers in the government or private industry, especially with organizations having strong environmental interests or programs. It is also anticipated that students desiring to work in foreign countries, and foreign students, will take part in this program.

Although the Environmental Management option is open to students at the Master's level, students completing advanced degrees in Applied Ecology and Conservation Biology (M.S.- Frostburg State) or Sustainable Development and Conservation Biology (M.S.- Maryland, College Park) as well as at other graduate environmental management programs within or outside of the USM could logically pursue a Ph.D. within this AOS. It is also expected that students with strong interests in restoration/landscape ecology or in environmental science and policy would matriculate within the Environmental Science AOS with an emphasis in environmental management.

### Prerequisites for the Environmental Sciences AOS:

An undergraduate degree in the natural sciences or engineering, including:

1. Two semesters of Calculus
2. Two semesters of Introductory Chemistry
3. Two semesters of Physics
4. Two semesters of Introductory Biology (or high placement test, high advanced GRE scores)
5. An Ecology course and other advanced Environmental Science courses are recommended

### Core Courses and Other Requirements (M.S. and Ph.D.):

1. One approved course from three of the four distribution areas (biology, chemistry, physical science, management) for M.S. students, and from each of the four distribution areas for Ph.D. students. One of these courses can be at the 400 level, the others will be at the 600 level

2. A course in Statistics/Biostatistics (600 level for the Ph.D., 400 level for the M.S.)
3. One graduate level seminar for each year in residence (on average)
4. One or more courses in computer science or computer applications are strongly recommended
5. Courses in Experimental Design and Analysis and in Scientific Writing are also recommended

## **FISHERIES SCIENCE**

Fisheries Science is multidisciplinary, drawing expertise from the biological, physical and social sciences. Fisheries scientists study populations and communities of aquatic resources, their responses to exploitation and changes in environmental conditions, and their management. Research is quantitative and may be either basic or applied. A diversity of faculty talent exists within the USM to provide graduate students with a strong education in ecology, biology and management of fish and invertebrate resources.

The multidisciplinary nature of fisheries science requires broad training in areas that may include ecology, oceanography, aquaculture, economics, mathematics, seafood technology, pathology and diseases, and management science. Students will select a curriculum, with assistance from their Research Advisory committees, to best achieve their academic and professional goals. The faculty recognizes that flexible, yet rigorous, curriculum choices are important for students in fisheries science.

The program in fisheries offers both M.S. and Ph.D. degrees. Graduates at either level may expect to find challenging career opportunities. Most career opportunities in fisheries science are in the government and academic sectors, although in recent years private businesses, research firms and aquaculture businesses offer increasingly diverse career choices.

### **Subprograms**

Three subprograms are available, which emphasize faculty expertise in fisheries within the USM. Students may explicitly designate a subprogram in their course of study or may choose, with approval of the AOS, to design a

more general curriculum in the area of fisheries science.

### **1. Fisheries Ecology**

Basic studies in fish and invertebrate population biology, food webs, recruitment processes, predator-prey and competitive interactions, diseases, and effects of habitat conditions. Students in this subprogram will undertake a course of study that emphasizes interactions with related sciences such as oceanography, limnology, zoology, or other natural sciences related to the student's interests.

### **2. Fisheries Management**

Basic and applied studies on the effects of exploitation on fish and invertebrate populations. Assessment of resources and their potential yields. Development of models and information useful for management of living aquatic resources. Students in this subprogram will undertake a course of study that emphasizes population biology, economics of natural resources management and management science.

### **3. Aquaculture**

Research on the culture of aquatic organisms and the development of aquaculture systems. A broad disciplinary area that includes ecology, physiology, chemistry, genetics, seafood technology, diseases and pathology, engineering, economics and management under its auspices. Students in this subprogram will develop a course of study that emphasizes their particular interests in the aquaculture field.

### **Prerequisites:**

A Bachelor's degree in the natural sciences or other field with a strong quantitative emphasis, including:

1. Two semesters of Calculus
2. Two semesters of Introductory Chemistry
3. Two semesters of Organic Chemistry, Biochemistry, or Physics
4. Two semesters of Introductory Biology (or high placement test, high advanced GRE scores).
5. Advanced Biology courses, such as Ecology and Ichthyology, are recommended.

## **Core Courses and Other Requirements (M.S. and Ph.D.):**

Five core courses will be offered, and at least three must be successfully completed by all students entering the Fisheries Science AOS. The requirements may be waived if equivalent course work has been obtained elsewhere, or if the student and his or her Research Advisory committee successfully petition the AOS Committee.

**1. Fisheries Science and Management** - covers the basic principles of aquatic productivity, fish/invertebrate population biology, harvest and conservation of resources, assessing yield potentials, and fishery management practices.

**2. Fisheries Ecology** - covers the biological processes that affect productivity, abundances, and distributions of fish and invertebrate resources. Includes life history theory, predator-prey relationships, bioenergetics, trophic ecology, and zoogeography.

**3. Aquaculture** - covers the theory and practices of modern aquaculture of fishes and invertebrates. Includes coverage on water quality, production systems, extensive and intensive approaches, culture genetics, fish diseases and management.

**4. Economics of Fisheries Production** - covers the basic principles of production economics and bioeconomic modeling, including consideration of both wild and cultured stocks. Emphasis on the role of economic motivation in fisheries management and on the economic effects of typical management strategies.

**5. Biological and Chemical Oceanography** - covers major and minor elements, composition of seawater, seawater ionic structure and interactions, nutrient distributions, biogeochemical cycles and the biology of marine organisms (see Oceanography AOS).

Students will obtain most of their academic course work from a broad array of relevant courses presently available throughout the University System of Maryland. Each student and his or her Research Advisory Committee will design a course of study to be

approved by the Fisheries AOS. Curricular requirements are purposely flexible, yet rigorous, to accommodate the diverse needs of students in fisheries science.

In addition, the following core courses are required:

6. A 400 or 600 level course from one of the other MEES AOSs (from an approved list, which can include 2, 4, and 5 above)

7. One course or seminar in Environmental Management (*1 or 4* above satisfies this requirement; any such 3-4 cr. course can satisfy 6 above)

8. A course in Statistics/Biostatistics (600 level for the Ph.D., 400 level for the M.S.)

9. Courses in Experimental Design and Analysis and in Scientific Writing are strongly recommended

10. One graduate level seminar for each year in residence (on average).

## **OCEANOGRAPHY**

In the past decade, the University System of Maryland has emerged as a nationally and internationally recognized center for oceanographic research. The current expertise in oceanography in the USM lies in the subfields of Biological and Physical Oceanography. The expertise in biological oceanography includes water column nutrient cycling and trophic dynamics (comprising the entire pelagic food web and fishes) benthic ecology, and theoretical ecosystem analysis.

The expertise in physical oceanography is in large scale flows and global circulation problems. Physical and biological oceanographers work closely together to understand the dynamics of estuarine, coastal, and ocean systems. It should be noted that there is also considerable strength in marine chemistry in the USM; some courses are available in the MEES Oceanography track, but the track in Environmental Chemistry currently has a more diverse listing and greater program strength in this area.

Students in this AOS have access to extensive oceanographic facilities throughout the USM as well as the opportunity to work with some of the University's outstanding faculty in oceanography. Fundamental courses in the four major subfields of oceanography are required to provide interdisciplinary breadth, but a degree in the Oceanography AOS emphasizes the student's independent research. Students graduating from the Oceanography AOS can expect to find jobs in universities, oceanographic laboratories, government agencies, and consulting firms.

### **Physical Oceanography**

#### **Prerequisites:**

A bachelor's degree in a physical science, including:

1. Two semesters of Calculus
2. Two semesters of Physics
3. One or two additional advanced math courses
4. One or two additional advanced physical science courses
5. Two semesters of Introductory Biology and/or Chemistry are highly recommended.

#### **Core Courses and Other Requirements (M.S. and Ph.D.):**

1. One 4-credit course in Physical/ Geological Oceanography (MEES 661 or equivalent)
2. One 4-Credit course in Biological/Chemical Oceanography (MEES 621 or equivalent)
3. Three 3-credit courses in Oceanography or related fields (400 or 600 level) including:
  - a. One course in rotating fluid dynamics
  - b. One course in non-rotating fluid dynamics
  - c. A recommended additional interdisciplinary course, although '2.' above can satisfy the MEES requirement for interdisciplinary breadth
4. A course in Statistics/Biostatistics (600 level for the Ph.D., 400 level for the M.S.)
5. One course or seminar in Environmental Management (a 3-4 cr. course can satisfy '3c.' above)
6. One graduate level seminar for each year in

residence (on average)

7. Courses in Experimental Design and Analysis and in Scientific Writing are also recommended.

### **Biological Oceanography**

#### **Prerequisites:**

A Bachelor's degree with courses equivalent to University of Maryland College Park undergraduate Biology degree requirements:

1. Two semesters of Calculus
2. Two semesters of Introductory Chemistry
3. Two semesters of Organic Chemistry or Biochemistry
4. Two semesters of Physics
5. Two semesters of Introductory Biology (or high placement test, high advanced GRE scores)

#### **Core Courses and Other Requirements (M.S. and Ph.D.):**

1. One 4-credit course in Physical/ Geological Oceanography (MEES 661 or equivalent)
2. One 4-credit course in Biological/ Chemical Oceanography (MEES 621 or equivalent)
3. Three 3-credit courses in Oceanography or related fields (400 or 600 level)
  - a. A recommended additional interdisciplinary course, although MEES 661 can satisfy the MEES requirement for interdisciplinary breadth
4. A course in Statistics/Biostatistics (600 level or the Ph.D., 400 level for the M.S.)
5. One 600 level course or seminar in Environmental Management (a 3-4 cr. course can also satisfy '3a.' above)
6. One graduate level seminar for each year in residence (on average)
7. Courses in Experimental Design and Analysis and in Scientific Writing are also recommended.

## COURSE OFFERINGS

(Note: Credit hours given in parentheses.)

**BIOL 600 Marine & Estuarine Ecology (4)**  
Discussion topics include marine environment, adaptations of populations, structure of marine ecosystems, dispersion of marine organisms, migration, nutrition cycles, productivity and catches of fish, food chains and models of the sea. **Prerequisite: An introductory Biology/Botany/ Zoology course and a course in Ecology.**

**BIOL 601 Environmental Microbiology (4)**  
Topics include microbial ecology of plants and animals, aquatic microbial ecology (including medical implications), soil microbial ecology, biodegradation, microbial insecticides, gastrointestinal microbiology, microbiology of foods and environmental problems management. Each student will be required to complete an independent research project. **Prerequisite: General Microbiology**

**BIOL 621 Environmental Endocrinology (3)**  
Topics include impact of environmental factors on endocrine and neuroendocrine systems in various animal species; hormonal and adjustments to environmental stress; and review of pertinent scientific literature. **Prerequisite: One year of Biology and one semester of Biochemistry.**

**BIOL 633 Adaptations to the Marine Environment (3)**  
Topics include physiological adaptation, perception of the environment, feeding and energy budgets, gases and respiration, circulation, reproduction and development. An independent research project is required. **Prerequisite: One year of college Biology and one year of college Chemistry or permission of the instructor.**

**BIOL 661 Community Ecology (4)**  
This course is an in-depth study of the biology of communities with emphasis on factors that regulate abundance, diversity and stability of communities. Current theories on community dynamics will be combined with field experiences and detailed analyses of selected field projects.

**BIOL 662 Population Ecology (4)**  
The course is an in-depth study of the biology of populations with emphasis on population structure, factors that regulate populations, and the effect of individual behavior on population characteristics. Field studies and computer simulations will explore selected areas of study.

**BIOL 681 Barrier Island Management (4)**  
The course is an in-depth view of barrier island ecosystems and management problems in general, and Assateague Island National Seashore, in particular. Research design and problem-solving of actual problems facing the National Park Service will be emphasized.

**BIOL 683 Wildlife Management (4)**  
Students will develop an understanding of the principles and practices associated with wildlife management. Emphasis will be placed on research design, sampling techniques, field research and statistical analyses. Students will practice field techniques during labs, analyze results and develop management recommendations as part of the semester project.

**BIOL 688B Ichthyology (4)**  
This is an advanced course in ichthyology covering fish systematics, classification, phylogenetics, and evolution. Regional and global zoogeographic patterns of distribution of taxa will be discussed from both an historical and contemporary perspective. Emphasis is placed on comparative fish anatomy and taxonomy of local marine, estuarine and freshwater fishes and the field collection, handling and preservation of fishes. **Prerequisite: an upper division undergraduate or graduate level course in general ichthyology, fish biology, fish ecology, physiology or behavior.**

**BIOL 688F Fish Physiology (1-4)**  
The course is an overview of fish physiology which fishery biologists and others can supplement with readings in current texts, reviews and research articles. Applicable points of general and comparative physiology are included. Summaries of important anatomic considerations are included where relevant, but the course is primarily for those who have already completed courses in general

physiology, chemistry, biochemistry and fish anatomy. It is an IVN offered course.

**CHEM 621 Advanced Environmental Chemistry (4)**

The origin, transport and effects of atmospheric and aquatic pollutants are studied, with emphasis on energy-related pollutants including coal, oil and synfuels.

**Prerequisites: One year of General Chemistry, one semester of Organic Chemistry and one semester of Analytical Chemistry or permission of the instructor.**

**CHEM 632 Applied Water Chemistry (3)**

The course studies the chemistry of both municipal and industrial water treatment processing. Topics include water softening, stabilization, chemical destabilization of colloidal materials, ion exchange, disinfection, chemical oxidation and oxygenation reactions. **Prerequisites: B.Sc. in Biology, Chemistry or Environmental Science. One year of undergraduate courses in Analytical Chemistry and Environmental Science. Permission of instructor required.**

**CHEM 670 Advanced Biochemistry (3)**

The course covers the classification, chemistry and metabolism of protein, amino acids, carbohydrates and lipids. **Prerequisite: One semester of Biochemistry.**

**CSDP 604 Computer Methods in Statistics (3)**

The course is an introduction to principles and applications of probability and statistics needed in graduate studies in various academic areas and to computer realization of these methods. The course begins with a brief intensive review of basic statistical principles. **Prerequisite: One semester of calculus.**

**ENVS 611 Water Pollution (4)**

Biological, chemical and physical impurities in water with emphasis on agricultural, industrial and municipal waste pollution including acid mine drainage, detergents and eutrophication, thermal pollution, oil spills and other non-point source pollution will be studied. Further study will include the physical and biochemical processes for wastewater treatment, sludge

handling and disposal and land disposal of wastewaters. **Prerequisites: B.Sc. in Biology, Chemistry or Environmental Science. One year of undergraduate courses in Water Pollution and Environmental Science.**

**ENVS 634 Air Pollution and Control (4)**

Classification of atmospheric pollutants and their effects on visibility, inanimate and animate receptors will be discussed. Evaluation of source emissions and principles of air pollution control, e.g., meteorological factors governing the distribution and removal of air pollutants, air quality measurements and air pollution control legislation will also be studied. **Prerequisites: B.Sc. in Biology, Chemistry or Environmental Science. One year of undergraduate courses in Air Pollution and Environmental Science.**

**ENVS 639 Sources and Effects of Pollutants (3)**

The course is a study of the sources, fate and effects of various toxic pollutants on man and the environment with emphasis on aquatic and atmospheric pollutants. **Prerequisites: B.Sc. in Biology, Chemistry or Environmental Science with some background in environmental pollution or consent of the instructor.**

**ENVS 641 Environmental Toxicology (3)**

Organisms in the atmosphere, hydrosphere and lithosphere and the effects of foreign chemical and other stress on their health and well-being will be discussed. **Prerequisites: B.Sc. in Biology, Chemistry or Environmental Science with some background in environmental pollution or consent of the instructor.**

**ENVS 660 Earth Science (4)**

This is an interdisciplinary course designed to show how geology, meteorology, physical geography, soil science, astronomy and oceanography are interrelated in the study of earth and its environment in space. **Prerequisites: One year of Chemistry and one year of Physics.**

**ENVS 684 Natural Resource Management (3)**

Topics include discussion of the availability, use, abuse, depletion and pollution of various

natural resources humans need for their survival. The cost-benefit analyses and systems management concepts for natural resource conservation enabling us to save the 'earth' for future generations will be addressed. **Prerequisites: B.S. in Biology, Chemistry, Environmental Science or Agricultural Sciences or consent of the instructor.**

**PHYS 621 Physical Principals of Environmental Instrumentation (3)**

The course is a discussion of advanced physical concepts and their applications in instrumentation used in contemporary research. Construction details and the computer interfacing of selected instruments will also be discussed. **Prerequisites: One year of Physics and one year of Calculus.**

**MEES 608 MEES Seminar (1)**

This is repeatable credit with different topics.

**MEES 610 Experimental Design Seminar (1)**

The course is an exploration of research issues in experimental design. Seminar format includes student presentations and literature searches. **Prerequisite: course in basic statistics or permission of instructor.**

**MEES 698 Special Topics in MEES (1-3)**

This is repeatable credit with different topics.

**MEES 699 Special Problems in MEES (1-3)**

Special problems in areas related to the Natural Sciences, Agriculture and Nutrition are explored.

**MEES 799 Master Thesis Research (1-6)**

This is repeatable credit.

**MEES 899 Doctoral Dissertation Research (1-12)**

This is repeatable credit.

The following undergraduate courses are available for MEES graduate students to take. No more than 12 credits of 400 level courses may be used towards the minimum 24 credits of course work required.

<b>BIOL 402</b>	<b>Ecology</b>
<b>BIOL 420</b>	<b>Animal Histology</b>
<b>BIOL 431</b>	<b>Mammalogy</b>
<b>BIOL 436</b>	<b>General Endocrinology</b>
<b>BIOL 440</b>	<b>Plant Physiology</b>
<b>BIOL 441</b>	<b>Comparative Physiology</b>
<b>BIOL 451</b>	<b>Conservation Biology</b>
<b>BIOL 461</b>	<b>Invertebrate Zoology</b>
<b>BIOL 488</b>	<b>Wildlife Ecology</b>
<b>CHEM 401</b>	<b>Principles of Physical Chem. I</b>
<b>CHEM 402</b>	<b>Principles of Physical Chem. II</b>
<b>ENVS 411</b>	<b>Water Pollution &amp; Purification</b>
<b>ENVS 434</b>	<b>Air Pollution</b>
<b>MATH 410</b>	<b>Mathematical Statistics</b>

Graduate statistics options include AGSC 605 Statistics in Agricultural Research and CSDP 604 Computer Methods in Statistics. Variable credit MEES 688 experimental courses may be offered periodically with specialty topics of various faculty members.

**FACILITIES, STATE-OF-THE-ART EQUIPMENT AND FIELD SITES**

Excellent research laboratories exist on campus in the G. W. Carver Science Hall. Research laboratories are also located in Trigg Hall and on the University farm (Department of Agriculture). For a listing of the laboratories and major equipment and the UMES MEES faculty, see the website:

[www.umes.edu/sciences/mees/mees.html](http://www.umes.edu/sciences/mees/mees.html).

UMES is uniquely situated for studying marine and estuarine habitats. Students have access to the Chesapeake Bay and the Atlantic Ocean, as well as rivers, ponds and marshes.

**EXTERNAL SUPPORT OF RESEARCH ACTIVITIES**

UMES faculty have received funding for research from a number of federal and state agencies and private organizations, including the National Science Foundation, National Institutes of Health, U. S. Department of Agriculture, National Oceanic and Atmospheric Administration, U. S. Department of the Interior, Environmental Protection Agency, Mid-Atlantic Fisheries Development Foundation, National Aeronautics and Space Administration, U.S.



Forest Service, Agency for International Development and the Maryland Department of Natural Resources.

University of Maryland Eastern Shore  
Princess Anne, MD 21853

### **UMES COMBINED B.S./M.S. DEGREE PROGRAM**

UMES offers a combined B.S./M.S. degree program in the Environmental Sciences area (Environmental Chemistry or Marine Science option). This is an accelerated program designed to enable students to obtain both the B.S. degree and the M.S. degree in five years. The curricula for the two degrees are administered under the auspices of the undergraduate Environmental Science Program and the graduate MEES program. The combined degree program offers an option or track in either Environmental Chemistry or Marine Science.

This is an undergraduate admission into the B.S. degree program in Environmental Science, which allows for subsequent application for admission to the MEES graduate program in pursuit of the M.S. degree in Marine-Estuarine-Environmental Sciences.

### **MEES PROGRAM TIME LIMITS**

Full time master's students will be limited to four years in which to graduate.

Full time doctoral students will be limited to seven years in which to graduate. Students must be advanced to candidacy, i.e., taken and passed the comprehensive examination and the dissertation proposal defense, within six semesters after matriculation.

Part time doctoral and master's MEES students will follow the Graduate School's time limits for master's degrees (5 years) and doctoral degrees (5 + 4).

An extension of these time limits may be granted upon request of the student's advisory committee, and with appropriate approvals.

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**For further information on the MEES program, please contact:**

Graduate Coordinator - MEES Program  
Dept. of Natural Sciences  
Carver Hall

## TOXICOLOGY

### Program Description and Degrees Offered

The Toxicology Program provides educational and professional training in mechanistic and applied fields of environmental and mammalian toxicology. Graduates conduct research, teach, and provide technical support to federal, state, and local governments, industry, and citizen groups in areas including: evaluation and testing of harmful effects of chemical, physical, and biological agents on living organisms; mechanisms of toxicity; prevention of chemical induced diseases; risk assessment; and environmental protection through governmental regulations for the control and monitoring of hazardous chemicals.

To meet these objectives, the program's curriculum includes courses in epidemiology, occupational medicine, analytical chemistry, molecular biology, law, and basic natural sciences. Students learn to understand and deal with environmental and human health problems arising from the many sources of pollution produced by modern technology.

The program offers Master of Science and Doctor of Philosophy degrees.

### Program Admission

Applicants should have majored in chemistry, biology or pharmacy. See University of Maryland Baltimore/Baltimore County website: [http://graduate.umaryland.edu/prog\\_toxicology.html](http://graduate.umaryland.edu/prog_toxicology.html) for specific types of courses.

### Degree Requirements

Specific requirements for the degrees in toxicology include a minimum of 36 credits with the following distributions: core courses (15 credits), electives in toxicology (9 credits), other electives (6 credits), and master's thesis research (6 credits), or doctoral dissertation research (12 credits). The program encourages students to take advantage of appropriate graduate courses at a number of University System of Maryland campuses.

### Faculty

Toxicology is a University System of Maryland (USM) program with participating faculty members from the various USM campuses. The program is focused at the

University of Maryland Baltimore/University of Maryland Baltimore County campuses.

### Courses

For core, elective and research credit courses in toxicology see [http://graduate.umaryland.edu/prog\\_toxicology.html](http://graduate.umaryland.edu/prog_toxicology.html). There are also program specializations (see same website). UMES does not offer any of the toxicology courses, but the MEES graduate program at UMES offers periodically several equivalent environmental toxicology related courses.

### Application Deadlines

Fall Semester: July 1

(January 1 for international applicants)

Spring Semester: December 1

(May 1 [Prior year] for international applicants)

See the above cited website for non-degree student application deadlines.

Note that application review and admission are through the University of Maryland Baltimore/University of Maryland Baltimore County campuses. The application deadlines are those campuses.

Applications may be transmitted through the UMES Graduate School.

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### For additional information on the program contact:

Graduate Program

Toxicology

1450 S. Rolling Road

University of Maryland Baltimore County

Baltimore, MD 21227

(410) 455-6311

or

Graduate Program

Toxicology

100 N. Greene St., Room 416

University of Maryland Baltimore

Baltimore, MD 21201

(410) 706-8196

E-mail: [ksquibb@umaryland.edu](mailto:ksquibb@umaryland.edu)

Or

Graduate Coordinator: TOXI Program

Department of Natural Sciences

University of Maryland Eastern Shore

Princess Anne, MD 21853

**PHYSICAL THERAPY**  
**Doctor of Physical Therapy**

**THE PROGRAM**

The Doctor of Physical Therapy (DPT) degree program constitutes the initial professional preparation for students desiring to become physical therapists. Graduates of the program will be prepared to carry out the expanding responsibilities as autonomous health care providers practicing prevention, examination, and intervention in acute care and rehabilitation settings, and in educational and research environments. The DPT Program will also prepare students to contribute to the field of physical therapy through research and other scholarly activities in addition to the utilization of these activities.

**ACCREDITATION**

The DPT Program is designed to meet the Standards of Practice of the American Physical Therapy Association and the Accreditation Standards set forth by the Commission on Accreditation in Physical Therapy Education.

The DPT Program has been granted accreditation status by the Commission on Accreditation in Physical Therapy Education.

**ADMISSIONS POLICY**

The Physical Therapy Admissions Committee selects students for admission. Students must meet the following criteria to gain admission to the DPT Program:

1. Bachelor's degree from U.S. institutions of higher education accredited by a regional accrediting association or the degree equivalent in another country.
2. All applicants must successfully complete the following prerequisite courses:

<u>Hours</u>	<u>Semester</u>
Zoology with Lab <b>OR</b> Biology with Lab	4
Human Anatomy and Physiology with Lab(or its equivalent)	8
Math (Trigonometry or higher)	3-4
Physics with Lab	8

Psychology (General, Abnormal or Child)	3
Sociology	3
Chemistry with Lab	8
Histology with Lab <b>OR</b> Cell Biology with Lab	
or	
Microbiology with Lab	4
Other upper level Science Course may be considered	
Statistics	3

3. An overall 3.0 grade point average of all course work earned and 3.0 average in the science and math courses earned that are a prerequisite to the program (including any courses taken during the spring and the summer preceding fall admission).

4. Demonstration of knowledge concerning the physical therapy profession by submitting:

- a. an essay detailing the reasons the applicant desires to become a physical therapist.
- b. Documentation of first-hand observation and/or work experience related to the practice of physical therapy. This experience must be substantiated in writing by a registered/licensed physical therapist.

5. Submission of three (3) letters of recommendation addressing both the applicant's moral character and potential as a physical therapist.

6. A personal interview with at least one member of the Physical Therapy Admissions Committee may be required.

7. Completion of the Graduate Record Examination (GRE) General Test.

8. Prerequisite science courses completed prior to September 1994 will not be accepted.

Due to certain factors (i.e. number of available clinical sites), the number of qualified students who can be accepted into the DPT Program is limited. The Physical Therapy Admissions Committee will consider such criteria as overall GPA, mathematics and science GPA, prior experience and personal interview scores in making its decision for admission.

## **ACCEPTANCE POLICY**

Upon acceptance to the DPT Program, the student will be notified of acceptance and given two weeks to return the acceptance letter. A non-refundable acceptance fee of \$200.00 must accompany the acceptance letter. On admission, this acceptance fee will be credited toward tuition.

## **APPLICATION DEADLINE**

Applicants who plan to complete the Bachelor of Science Degree and all pre-requisites for the DPT Program before the end of August in any year may apply to the program beginning September 1 of the year prior.

1. Early admission decisions will be made on applications received by December 1.
2. Regular admission decisions will be made on applications received by February 1 of the following year.
3. If space is available, applications received after these dates may be considered for admission.

## **GENERAL PROGRAM COMPLETION REQUIREMENTS**

The program requires completion of didactic course work, clinical internships, independent study, and a research project as partial fulfillment for the doctorate degree.

Core didactic courses include foundational sciences, clinical medicine, physical therapy procedures, and patient management.

The Clinical Education component provides students with the opportunity to apply their didactic knowledge and skills to clinical situations. Through clinical education experiences, students develop program solving and clinical decision-making skills. Select clinical affiliations provide students with clinical experience in specialty areas or physical therapy practice.

The independent study/electives component allows students to pursue advanced study in areas of individual interest under the guidance of the physical therapy faculty. Each student is required to complete six credits in

independent study/electives which are approved by the student's academic advisor.

The Research/Critical Inquiry component consists of two didactic courses in research methods and the completion of an extensive independent research project under the direction of a research advisor. The research project incorporates all phases of the scientific inquiry process from the formulation of research questions or hypotheses and literature review through data collection and analysis of the results. Final project requirements include a written document and an oral presentation. Students are encouraged to publish and/or present their research to professional organizations such as the American Physical Therapy Association and the American College of Sports Medicine.

Each student is initially assigned an Academic Advisor who is responsible for advising the student on all aspects of the student's progress throughout the program. The student must select a research advisor and committee by the end of the first semester of enrollment in the program. All students must maintain a cumulative 3.0 GPA. The program requires full-time continuous enrollment.

## **RETENTION IN PROGRAM**

### **1. Didactic Program Phase**

- 1.1 The grading scale for the Physical Therapy Department is as follows:

A - 90-100

B - 80-89

C - 75-79

D- 65-74

F- 0-64

Students must have a 75 average in the didactic and the laboratory components of courses for successful completion.

- 1.2 A final grade of D in any course (lecture and/or lab) during the DPT Program will result in the student being placed on academic probation.
- 1.3 Students attaining probationary status twice during the DPT Program are subject to automatic academic dismissal from the program.

- 1.4 A final grade of D in any two courses during the DPT Program (lecture and/or lab) results in an automatic academic dismissal from the program.
- 1.5 A final grade of F in any course (lecture and/or lab) results in automatic dismissal from the program.
- 1.6 A student who receives a final grade of D in a course (lecture and/or lab) will be referred to the faculty who will make recommendations to the Department Chairman as to how this grade may be removed and the time limit for removal. Failure to remove the grade in a specified time limit may result in dismissal from the program.
- 1.7 Students engaging in any unethical practices as outlined by the policies of the University of Maryland Eastern Shore, Code of Conduct of the American Physical Therapy Association, and State or Federal laws may be dismissed from the program.
- 1.8 Students must maintain a grade point average of "B" or better over all graduate courses taken and must otherwise satisfy all additional departmental and UMES Graduate School Program requirements. It should be noted, however, that a graduate student has two semesters in which to bring their average back to 3.0 ("B") after it falls below that level. The admission of all students, both degree and non-degree, is continued at the discretion of the major professor, the Department or Program Coordinator and the Dean of Graduate Studies.
- 1.9 All courses must be completed in sequence.
- 1.10 Students are expected to be able to meet the essential technical standards of performance required by the Department of Physical Therapy.

## 2. **Clinical Practicum and Affiliation Phase**

- 2.1 No student may enter the final 16 weeks of full-time clinical affiliations during the 3<sup>rd</sup> year of the program with a final grade of D in any course. Admission to the final 16 weeks of full-time clinical affiliation is by approval of Physical Therapy faculty.
- 2.2 Each clinical affiliation or practicum must be passed. A student receiving a failing grade during a clinical affiliation or practicum is automatically dismissed from the DPT Program.
- 2.3 Students not completing a clinical affiliation or practicum for personal reasons may be required to repeat an affiliation or practicum of the same length or make-up the time lost at the same affiliation or practicum.
- 2.4 A student may only repeat or make-up a clinical affiliation or practicum upon approval of the faculty of the Department of Physical Therapy. Students are expected to be able to meet the essential technical standards of performance required by the Department of Physical Therapy.

## 3. **Readmission**

- 3.1 Students who have been dismissed for academic reasons and students who have had to withdraw for personal reasons may seek readmission by submitting a letter of request to the department.
- 3.2 The request for readmission will be reviewed by the Department of Physical Therapy faculty. A student may be readmitted only once to the program.

## **REAPPLICATION TO PROGRAM**

An applicant who has been unsuccessful in obtaining admission into the program may

reactivate his or her file by written request to the department by February 1.

**Entry-Level Doctorate in Physical Therapy  
Course Sequence\***

**YEAR 1**

**FALL**

PHYT 601	Advanced Human Anatomy Lecture	(4)
PHYT 607	Advanced Human Anatomy Lab	(2)
PHYT 605	Life Span Development and Embryology	(3)
PHYT 670	Introduction to Health Care Systems and Patient Care	(2)
PHYT 600	Advanced Human Physiology	(3)

**Total: 14 Credits**

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**WINTER  
No Classes**

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**SPRING**

PHYT 602	Neuroscience	(4)
PHYT 603	Exercise Physiology	(3)
PHYT 604	Analysis of Human Movement	(4)
PHYT 612	Clinical Medicine I-Pathophysiology	(3)
PHYT 681	Research Methods I	(3)

**Total: 17 Credits**

**SUMMER**

PHYT 622	Tests and Measures	(3)
PHYT 614	Clinical Medicine II- Neuropathology	(2)
PHYT 671	Interpersonal Communication and Psychosocial Aspects of Disability	(3)
PHYT 620	Introduction to Clinical Examination, Evaluation, and Differential Diagnosis	(1)
PHYT 621	Physical Therapy in the Acute Care Setting	(3)
PHYT 651	Clinical Practicum I – Acute Care Focus	(1)
PHYT 789	Research Project	(1)

**Total: 14 Credits**

**YEAR 2**

**FALL**

PHYT 615	Clinical Medicine III – Orthopedics	(3)
PHYT 623	PT Procedures I – Physical Agents	(2)
PHYT 627	PT Procedures II – Soft Tissue Techniques	(2)
PHYT 630	PT Procedures III- Musculoskeletal	(3)
PHYT 624	Therapeutic Exercise I-Basic and Essentials	(3)
PHYT 616	The Integumentary System and Wound Management	(2)
PHYT 789	Research Project	(1)
PHYT 652	Clinical Practicum II	(1)
PHYT 658	Clinical Judgment and Integration Seminar	(1)

**Total: 18 Credits**

**WINTER**

PHYT 660	Clinical Affiliation I (6 weeks)	(3)
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**Total: 3 Credits**

**SPRING**

PHYT 631	Prosthetics and Orthotics	(2)
PHYT 626	PT Procedures IV – Electrophysiology	(3)
PHYT 625	Therapeutic Exercise II	(2)
PHYT 672	Patient and Community Health Education and Promotion	(2)
PHYT 632	Therapeutic Exercise III-Exercise Testing and Prescription for Special Population	(2)
PHYT 675	Physical Therapy Administration	(3)
PHYT 789	Research Project	(1)
PHYT 653	Clinical Practicum III	(1)
PHYT 658	Clinical Judgment and Integration Seminar	(1)

**Total: 17 Credits**

### SUMMER

- PHYT 606 Pharmacology, Laboratory Values, and Medical Imaging For the Physical Therapist (2)  
PHYT 682 Research Methods II (2)  
PHYT 789 Research Project (1)

**Total: 5 Credits**

### YEAR 3

#### FALL

- PHYT 642 Patient Management-Neuromuscular I (2)  
PHYT 637 Patient Management-Pulmonary (2)  
PHYT 634 Patient Management-Musculoskeletal I (2)  
PHYT 640 Patient Management-Pediatrics I (2)  
PHYT 789 Research Project (1)  
PHYT 661 Clinical Affiliation II (8 weeks) (4)  
PHYT 659 Advanced Clinical Judgment and Integration Seminar (1)

**Total: 14 Credits**

#### WINTER

- PHYT 643 Patient Management-Neuromuscular II (1)  
PHYT 635 Patient Management-Musculoskeletal II (1)  
PHYT 641 Patient Management-Pediatrics II (1)  
PHYT 673 Professional Education Seminar (1)

**Total: 4 Credits**

#### SPRING

- PHYT 633 Patient Management-Cardiac (2)  
PHYT 645 Patient Management Selected Topics II (2)  
PHYT 644 Patient Management – Neuromuscular III (3)  
PHYT 636 Patient Management Musculoskeletal-III (3)  
PHYT 659 Advanced Clinical Judgment and Integration (1)  
PHYT 674 Professional Development and Practice Issues In P.T. (1)

- PHYT 789 Research Project (1)

**Total: 13 Credits**

### SUMMER

- PHYT 662 Clinical Affiliation III (16 weeks) (8)

**Total: 8 Credits**

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\*Course numbers and sequence subject to change. Student must complete 6 credits of Independent Study or electives during the three years of the program

**TOTAL CREDITS: 132**

### COURSE DESCRIPTIONS

#### **PHYT600 Advanced Human Physiology (3)**

This course focuses on the major physiological systems of the human body. Topics in this course will cover function of the cardiovascular, respiratory, musculoskeletal, renal, gastrointestinal, genitourinary, neurological, lymphatic, endocrine, and immune systems at the cellular, organ and systemic levels.

#### **PHYT601 Advanced Human Anatomy (4)**

This course focuses on the structure and function of the human body with emphasis on the neuromusculoskeletal, cardiovascular, pulmonary, gastrointestinal, and genitourinary systems. Clinical correlations to the anatomical structures will be presented.

#### **PHYT602 Neuroscience (4)**

This course explores the structure and function of the central, peripheral and autonomic nervous systems on an anatomical, physiological and neurological basis. Three lecture hours and three laboratory hours per week.

#### **PHYT 603 Exercise Physiology (3)**

This course provides an overview of exercise physiology theory and principles and an examination of the physiological responses to both acute and chronic physical activity. The role of exercise physiology in the treatment and rehabilitation of various populations is highlighted.





the physiology of the normal wound healing process. The etiology and pathophysiology of various types of chronic wounds will be presented including pressure ulcers, arterial and venous insufficiency ulcers, neuropathic ulcers, and burns. The examination, evaluation, and intervention for each type of pathologic condition will be discussed. Students will engage in problem-solving activities through a variety of case study applications.

**PHYT 620 Introduction to Clinical Examination, Evaluation and Differential Diagnosis (1)**

This course will consist of the principles of the patient management model including examination, evaluation, diagnosis, and prognosis. Emphasis will be placed on the process of obtaining a history, performing a systems review, and selecting and administering tests and measures to gather data. The principles of differential diagnosis will be introduced with an emphasis on distinguishing between neuromusculoskeletal and systemic conditions.

**PHYT 621 Physical Therapy in the Acute Care Setting (3)**

Students will be introduced to basic physical therapy examination, evaluation and intervention skills to ensure safe patient interactions including; gross assessment skills, patient communication, safe and effective patient positioning and movement, monitoring of vital signs, use of assistive ambulatory devices, universal precautions and sterile procedures. An emphasis is placed on psychomotor performance of the above examination and intervention skills and will also include safe procedures in transfers, gait training, positioning, and basic patient handling skills. Equipment and procedures utilized in the acute care setting will be introduced including IVs, cardiac monitoring devices, catheters, and respiratory support apparatus.

**PHYT 622 Tests and Measures (3)**

This course presents examination/evaluation skills pertinent to physical therapy including, postural assessment, goniometry, specific and group manual muscle testing, isokinetic testing, sensation testing, limb length and girth measurements, and reflex testing. Students will

apply techniques to specific patient case situations.

**PHYT 623 PT Procedures I – Physical Agents (2)**

The course addresses: 1) The physical principles and physiological effects of physical agents/modalities; 2) The ethical use and application of physical agents in the management of pain, soft tissue trauma, and edema; 3) The role of physical agents/modalities in prevention of secondary complications and their adjunct use to therapeutic exercise and movement therapy; 4) The relationship of physical agents/modalities, temperature regulation and vascular supply, indications and contraindications; 5) Modification in the application of physical agents/modalities in unique patient populations.

**PHYT 624 Therapeutic Exercise I – Basics and Essentials (3)**

This course serves as an introduction to the modality of therapeutic exercise. It includes principles of aerobic conditioning and the use of various types of resistance, range of motion, postural, and breathing exercises along with their therapeutic application to specific regions of the body. Emphasis will be centered on providing a foundation of knowledge and skills that can be used to manage a large number of patient problems seen in clinical practice. Students will be able to design safe and effective therapeutic exercise programs and home programs for a variety of patients with consideration of indications and contraindications. Issues of patient compliance will also be addressed.

**PHYT 625 Therapeutic Exercise II (2)**

This course is a continuation of Therapeutic Exercise I and includes advanced therapeutic techniques for all regions of the body. Such techniques as proprioceptive neuromuscular facilitation, a wuatic exercise, balance, and post-surgical protocols are covered. Therapeutic exercise interventions for special patient populations will also be addressed including the obstetrical patient, patients with rheumatoid arthritis and osteoarthritis, scoliosis, and the elderly.

**PHYT 626 PT Procedures IV –  
Electrophysiology (3)**

Analysis of the physical and physiological principles underlying the application of therapeutic electricity in patient/client management is provided. Basic principles underlying electrodiagnostic procedures are covered.

**PHYT 627 PT Procedures II – Soft Tissue  
Techniques (2)**

This course encompasses practical and theoretical aspects of soft tissue techniques used in the physical therapy management of musculoskeletal impairments. Emphasis is placed on examination skills, specific tissue examination, and intervention techniques. The potential influence of soft tissue on movement and pain in mechanical and neurological impairments is discussed.

**PHYT 630 PT Procedures III –  
Musculoskeletal (3)**

This course will consist of the principles of upper and lower extremity examination including the special testing of the upper and lower extremity joints and assessment of accessory motion. The principles of joint mobilization as a therapeutic intervention will be included with a discussion of the history, various philosophies, grading systems, and techniques. Joint mobilization techniques specific to the upper and lower extremities will be emphasized. The course will also cover differential diagnosis of upper and lower extremity conditions of musculoskeletal and non-musculoskeletal origin with the use of an upper and lower quarter scanning exams.

**PHYT 631 Prosthetics and Orthotics  
(2)**

The course focuses on patient management for individuals requiring the use of prostheses and orthoses. Emphasis is placed on the skills of examination of limb impairments and evaluation of the factors that influence the normalization of function. Students will develop plans and intervention strategies to maximize the health care of individuals with various amputations and limb impairments. In addition, students will learn to proficiently measure appropriate changes in function and communicate the

findings to the prosthetist/orthotist and other members of the health care team.

**PHYT 632 Therapeutic Exercise III-  
Exercise Testing and  
Prescription for Special  
Populations (2)**

This course highlights basic exercise testing procedures and precautions, as well as exercise prescription for selected patient populations. An emphasis is placed on monitoring patients for normal and abnormal responses to activity, and specific indications and contraindications to exercise. Populations to be addressed will include individuals with arthritis, diabetes, cancer, AIDS, and cardiovascular and pulmonary conditions, among others.

**PHYT 633 Patient Management –  
Cardiac (2)**

Emphasis during lecture and laboratory experiences will be placed on cardiovascular structure, physiology, function, and the response to acute and chronic exercise. Interventions such as medications, surgical procedures, and exercise will be highlighted, along with the nature of cardiovascular pathology, cardiovascular rehabilitation, prevention strategies, and the role of the physical therapist.

**PHYT 634 Patient Management –  
Musculoskeletal I (2)**

The course is the first part in the sequence of management and treatment of the neurologically impaired adult. The course explores the theoretical basis of traditional and current approaches for the management of persons with CNS, PNS, ANS and congenital disorders of traumatic and/or vascular etiology. The primary concerns are: (a) brief review of traditional methods, their historical perspectives, strengths and weaknesses; (b) in-depth analysis of Brunnstrom's method of evaluation and treatment of patients post-CVA and post-selected vascular disorders of cortical etiology, strengths and weaknesses; (c) introduction to theories of motor control, motor learning and skill acquisition and their potential application in skill learning and rehabilitation; (d) current issues in "functional" interventions, strategies and outcome expectations.

**PHYT 635 Patient Management –  
Musculoskeletal II (1)**

This course is a continuation of PHYT 634, Patient Management-Musculoskeletal I stressing the skills of examination, program planning, treatment, re-evaluation, and continuing health care in dysfunctions of the musculoskeletal system. Special emphasis will be directed at dysfunction of the extremity joints, and the integration of all treatment interventions including the use of manual therapy. The student will learn to examine and treat common dysfunctions and surgical conditions of the extremities. The course will also emphasize the skills of differential diagnoses as it relates to the extremities. The students will also perform advanced dissections of the joints with special emphasis on mobilization procedures, special testing, and common pathologies.

**PHYT 636 Patient Management –  
Musculoskeletal III (3)**

This course is a continuation of PHYT 634 and 635, Patient Management-Musculoskeletal I and II. This course stresses the skills of examination, program planning, treatment, re-evaluation, and continuing health care in dysfunction of the musculoskeletal system. Special emphasis will be placed on the examination and treatment of common disorders of the spine, hip, SI joint, and TMJ. Manual therapy techniques, including mobilization and muscle energy techniques of the spine will be emphasized. The students will also perform advanced dissections of the joints with special emphasis on mobilization procedures, special testing, and common pathologies.

**PHYT 637 Patient Management –  
Pulmonary (2)**

Emphasis during lecture and laboratory experiences will be placed on recognition of pulmonary structure, physiology, and function, and pathological conditions. The role of physical therapy in the integration of various examination, evaluation and intervention procedures in order to provide acute care, rehabilitation, and prevention programs are also highlighted.

**PHYT 640 Patient Management –  
Pediatrics I (2)**

This course will cover examination, evaluation, and intervention procedures for common pediatric conditions including primary and secondary neurological, musculoskeletal, developmental, neuromuscular and cardiopulmonary disorders. Influences of psychosocial, cultural, and environmental factors will be addressed for children with disabilities and their families/caregivers. Students will be introduced to current principles and legal issues in the provision of pediatric services in community-based and educational programs including family-centered care, practice models, and the Individuals with Disabilities Education Act (IDEA).

**PHYT 641 Patient Management –  
Pediatrics II (1)**

The course is the second in a sequence of courses that explore the theoretical basis of traditional and current approaches of managing persons with CNS, PNS, ANS disorders of progressive and non-progressive, acquired and/or congenital etiologies. The course focuses on the examination, evaluation, diagnosis, prognosis, and intervention of the adult with impaired motor function and sensory integrity. This course will cover the management of patients with traumatic brain injury (TBI) in the acute and chronic phases of rehabilitation. The role of the physical therapist as a direct caregiver and team member will be discussed.

**PHYT 642 Patient Management –  
Neuromuscular I (2)**

The course is the first part in the sequence of management and treatment of the neurologically impaired adult. The course explores the theoretical basis of traditional and current approaches for the management of persons with CNS, PNS, ANS and congenital disorders of traumatic and/or vascular etiology. The primary concerns are: (a) brief review of traditional methods, their historical perspectives, strengths and weaknesses; (b) in-depth analysis of Brunnstrom's method of evaluation and treatment of patients post-CVA and post selected vascular disorders of cortical etiology, strengths and weaknesses; (c) introduction to theories of motor control, motor learning and skill acquisition and their potential application in

skill learning and rehabilitation; (d) current issues in “functional” interventions, strategies and outcome expectations.

**PHYT 643 Patient Management – Neuromuscular II (1)**

The course is the second in a sequence of courses that explore the theoretical basis of traditional and current approaches of managing persons with CNS, PNS, ANS disorders of progressive and non-progressive, acquired and/or congenital etiologies. The course focuses on the examination, evaluation, diagnosis, prognosis, and intervention of the adult with impaired motor function and sensory integrity. This course will cover the management of patients with traumatic brain injury (TBI) in the acute and chronic phases of rehabilitation. The role of the physical therapist as a direct caregiver and team member will be discussed.

**PHYT 644 Patient Management – Neuromuscular III (3)**

The course is the third in a sequence of courses, which explore the theoretical basis of traditional and current approaches of managing persons with CNS, PNS, ANS disorders of progressive and non-progressive, acquired and/or congenital etiologies. The skills of examination, evaluation, program planning, and intervention for the patient with neurological impairments will be emphasized. Attention will also be directed to the environment into which the patient is being discharged, re-evaluation of status, health care regulation changes and their implication of care for patients with dysfunctions of the neurological system.

**PHYT 645 Patient Management – Selected Topics (2)**

Students will develop skills for the management of patients with rheumatary diseases, HIV/AIDS, temporomandibular joint dysfunction, cancer, lymphedema, and incontinence. The role of the physical therapist in the management of the obstetric and gynecologic patients will also be included.

**PHYT 651 Clinical Practicum I – Acute Care Focus (1)**

Students are involved in a practical part-time clinical experience in the application of physical therapy procedures while under direct

supervision of a clinic instructor. The emphasis is on the management of patients in the acute care setting. The student will directly apply the knowledge and skills obtained in PHYT 621: Physical Therapy in the Acute Care Setting.

**PHYT 652 Clinical Practicum I (1)**

Students are involved in a practical part-time clinical experience in the application of physical therapy procedures while under direct supervision of a clinic instructor. Students rotate through a variety of clinical settings.

**PHYT 653 Clinical Practicum III (1)**

Students are involved in a practical part-time clinical experience in the application of physical therapy procedures while under direct supervision of a clinic instructor. Students rotate through a variety of clinical settings.

**PHYT 658 Clinical Judgment & Integration Seminar (1)**

This course combines instruction in clinical problem solving through problem synthesis, critical thinking, clinical reasoning, and decision-making. Case studies presented by faculty and students are used to facilitate the development of reasoning and decision-making skills that are applicable to current health care issues as well as to clinical practice. Students integrate didactic knowledge with clinical applications through the presentation and discussion of actual patient case studies. Repeatable credit.

**PHYT 659 Advanced Clinical Judgment & Integration Seminar (1)**

This course will focus on advanced clinical problem solving and analysis with an emphasis on the application of differential diagnostic skills. Students will develop skills in critical analysis of complex medical conditions and in formulating appropriate plans for intervention. The course is designed to enhance students’ critical thinking abilities that are particularly pertinent to the autonomous practitioner who practices in states with direct access to physical therapy services. Repeatable credit.

**PHYT 660 Clinical Affiliation I (3)**

This clinical session will consist of six weeks of full-time clinical experience. Students will

incorporate examination, evaluative and therapeutic procedures presented in the classroom and laboratory in direct patient care under the supervision of clinical instructor. 40 clinical hours per week/6 weeks.

**PHYT 661 Clinical Affiliation II (4)**

This clinical session will consist of eight weeks of full-time clinical experience. Students will incorporate examination, evaluative and therapeutic procedures presented in the classroom and laboratory in direct patient care under the supervision of a clinical instructor. 40 hours per week/8 weeks.

**PHYT 662 Clinical Affiliation III (8)**

This clinical session will consist of 16 weeks of full-time clinical experience in preparation for competency as an entry-level practitioner. Students will incorporate examination, evaluative and therapeutic procedures presented in the classroom and laboratory in direct patient care under the supervision of a clinical instructor. 40 hours per week/16 weeks.

**PHYT 670 Introduction to Health Care Systems and Patient Care (2)**

In this course, students are introduced to the role and function of the physical therapist in contemporary health care with an awareness of ethical principles, historical foundations of the profession, current health care issues, and health care economics. Students will be introduced to the patient management model in physical therapy including patient examination, evaluation, diagnosis, prognosis, intervention and outcomes. A broad overview of professional roles and functions in a variety of settings will be covered. The course will use an interdisciplinary approach to assure that students learn the importance of an interdisciplinary team approach to health care in urban and rural areas. This course also highlights the diversity of individuals and cultures and their interaction with the health care system.

**PHYT 671 Interpersonal Communication and Psychosocial Aspects of Disability (3)**

This course focuses on the psychological, social, and cultural contexts of patient care emphasizing those variables identified as important for managing clients with disabilities. Emphasis

will be placed on both verbal and non-verbal communication skills. Students develop initial skills in patient interviewing and in establishing a therapeutic therapist-patient relationship. Psychosocial characteristics of various patient populations are discussed. Emphasis is placed on how personal adjustment to disability influences the rehabilitation process. Students explore the various factors affecting the patient, the family, and the patient therapist relationship in situations of chronic illness, disability, and loss.

**PHYT 672 Patient and Community Health Education and Promotion (2)**

This course will explore the basic principles and theories of health care delivery and epidemiology in community based settings. The impact of demographic, cultural, economic and other factors that may affect delivery of health care will also be discussed. The course is designed to promote wellness and prevention through the development of patient and community education programs. Health belief models and adult learning theories and principles will be incorporated in the development and implementation of health education programs for individual patients and local community groups.

**PHYT 673 Professional Education Seminar (1)**

This course introduces the necessary components for conducting a professional education seminar/presentation. The course will focus on literature searches, assimilating problems and hypotheses, and styles associated with various types of professional presentations.

**PHYT 674 Professional Development and Practice Issues in PT (1)**

An introduction to job searching skills including resume writing and interviewing skills, preparing for the National Physical Therapy Examination and state licensure procedures are the focus of this course. The course will also include discussion of current and relevant issues facing the physical therapy profession.

**PHYT 675 Physical Therapy Administration (3)**

This course addresses principles of organization, management, and reimbursement in health care settings. Legal and ethical issues will be discussed including those pertaining to health care personnel administration.

**PHYT 681 Research Methods I (3)**

This course is designed to be a comprehensive review of basic experimental and non-experimental methods for research using the scientific method. Inductive and deductive approaches will be discussed with emphases on casual ordering, theoretical framework development, hypothesis testing and critical analysis of current literature.

**PHYT 682 Research Methods II (2)**

This is a seminar course examining problems and techniques of quantitative and non-quantitative data analysis including data management techniques, advanced statistical modeling (regression techniques, factor analysis, and non-linear techniques), handling non-normal quantitative data, and problems of qualitative research related to case studies, participant observation, and survey/questionnaire construction.

**PHYT 789 Research Project (1)**

This course emphasizes problem formulation suitable for the completion of a doctoral project. Data collection, hypotheses testing, argumentation from data, and completion of the doctoral project by the end of the professional training is expected. All research undertaken is supervised by the student's research advisor. Repeatable credit.

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**For further information on this program contact:**

Graduate Program Coordinator  
Department of Physical Therapy  
University of Maryland Eastern Shore  
Princess Anne, MD 21853

## **REHABILITATION COUNSELING**

### **MISSION**

The Master of Science in Rehabilitation Counseling is a graduate degree in the Department of Rehabilitation Services at the University of Maryland Eastern Shore. The department offers the Bachelor of Science degree in Rehabilitation Services. The M.S. degree program will prepare students for professional employment in counseling and service provision to individuals with physical, mental, developmental, sensory, cognitive, psychosocial, and emotional disabilities. Emphasis is placed on capacity building to increase services to under-served populations and rural communities. Underserved populations include minority, cultural, ethnic and racial groups, women, and the aging populations.

The number of individuals with a disability in the United States exceeds 50 million. The objective of the graduate program is to prepare rehabilitation professionals with the competencies, skills, knowledge and practical experiences, to effectively facilitate the rehabilitation and habilitation of individuals with disabilities in rural or urban settings. These competencies include an understanding of the policies and procedures relative to physiological, social, psychological, cultural, political, and economical factors that effect vocational rehabilitation and independent living.

The Department of Rehabilitation Services is committed to diversity, equality of opportunity, and the belief that everyone is entitled to full inclusion and active participation in society. The ultimate goal is to graduate competent rehabilitation professionals, who will be community leaders, and valued citizens.

All faculty in the Rehabilitation program are committed to teaching, service, and research for the inclusion of persons with disabilities into society. They foster a climate of life-long learning, leadership development, scholarly activity, and solution-based strategies that facilitate physical and psychological independence, gainful employment, and a consumer-defined quality of life in both rural and urban communities.

Faculty have conducted professional research, published refereed journal articles and book chapters, and presented before professional organizations on the state, national and international level. It will be the responsibility of the graduate program coordinator and the clinical coordinator to assist in locating appropriate internship experiences to meet the goals and program requirements.

The Master of Science degree in Rehabilitation Counseling will address the critical and compelling need for trained rehabilitation professionals in the state of Maryland, the mid-Atlantic region and nation. The graduate program will not only produce needed professionals in rehabilitation but also offset the continuing education needs of regional social services personnel.

### **Characteristics of the Program**

1. Educational objectives -- The graduate program is designed to provide rehabilitation education and training to meet the needs of a diverse and global labor market. The curriculum includes: (1) job placement counseling of people with disabilities; (2) infusion of rehabilitation technology across the curriculum; and (3) preparation of students to work in a variety of allied health and human service professions. Inclusion of assistive/adaptive and other relevant technology into the curriculum will make a difference in counseling about quality of life for individuals with disabilities.

2. General Requirements -- The UMES Graduate Program in Rehabilitation Counseling has established a program based on the Council on Rehabilitation Education (CORE) guidelines and State of Maryland professional counselor licensure criteria. Emphasis is placed on competencies that prepare graduates for a career path that includes direct service competencies and administrative functions. The universal CORE-based curriculum prepares graduates to apply to be a certified rehabilitation counselor (CRC) and professional counselor licensure (LPC). Program graduates will be prepared for employment in the State-Federal rehabilitation

system, e.g., Maryland Department of Rehabilitation Services, Non-governmental Organizations (NGOs) such as private foundations and associations, and private sector rehabilitation among many venues focused on serving individuals with disabilities and their families. Work settings for graduates of the Rehabilitation Counseling program include federal/state public rehabilitation, private practice, community rehabilitation centers, hospitals, schools, colleges, universities, industry, insurance companies, legal offices, corrections, treatment programs, centers for independent living (CILs), and rehabilitation centers. Additionally, students will be prepared to comply with the federal mandate on Comprehensive System of Personnel Development (CSPD) for the state-federal system of vocational rehabilitation.

The curriculum is consistent with the standards of the Council on Rehabilitation Education (CORE) and the Standards of Practice as set forth by the Commission on Rehabilitation Counselor Certification (CRCC). Graduates following the ascribed curricula are eligible to apply for certification as a Certified Rehabilitation Counselor (CRC). For more information on rehabilitation counseling certification visit the CRCC website: <http://www.crc-commission.org>

3. Credit and Courses -- The academic program will require 48 credit hours (16 courses) and can be completed in four semesters by full-time students. Although priority will be given to full-time students, part-time students and non-rehabilitation graduate students may register for courses if space is available. The length of time it will take for a part-time student to fulfill requirements for graduation is contingent upon how many credit hours they take each semester. A comprehensive exam (written and oral) will be required for students electing not to conduct Thesis Research. Students must maintain a cumulative grade of B (3.0) in all graduate level courses taken for credit toward a graduate degree.

## Master of Science Degree in Rehabilitation Counseling Course of Study

<b>First Semester</b>		<b>Hours</b>
RECN 501	Disability and Rehabilitation Policy	3
RECN 502	Theories and Counseling Techniques	3
RECN 503	Cultural and Ethical Dimensions of Counseling	2
RECN 504	Psycho-Social Aspects of Disabilities	2
RECN 505	Medical Aspects of Disabilities	<u>3</u>
<b>Total</b>		<b>13</b>

<b>Second Semester</b>		
RECN 510	Vocational Counseling and Job Placement*	3
RECN 511	Assessment and Vocational Evaluation*	3
RECN 512	Case Management of Severe Disabilities	3
RECN 513	Research Methods	<u>3</u>
<b>Total</b>		<b>12</b>

<b>Third Semester</b>		
RECN 601	Group and Family Counseling*	3
RECN 602	Legal Aspects of Rehabilitation	1
RECN 603	High Tech/Low Tech Rehabilitation Systems*	3
RECN 604	Program Evaluation and Organizational Development	3
RECN 605	Counseling Practicum**	<u>2</u>
<b>Total</b>		<b>12</b>

<b>Fourth Semester</b>		
RECN 610	Master's Seminar	2
RECN 612	Rehabilitation Counseling Internship (600 clock hours)***	6
RECN 799	Thesis Research (non-thesis option****)	<u>3</u>
<b>Total</b>		<b>11</b>

**Total credit hours 48**

\*Indicates courses that require 15-20 clock



hours of direct experience.

\*\*Indicates the course requiring 100-  
documented practical/clinical clock hours.

\*\*\*Indicates the RECN 612 Rehabilitation  
Counseling Internship, 600 clock hours.

\*\*\*\*If selecting a non-thesis option see advisor  
for elective recommendation.

RECN 501 through 505 or advisor's  
consent are prerequisites to other courses. These  
courses must be completed prior to  
practical/clinical experiences.

### **Practical/Clinical Experience**

The four didactic courses that require  
practical/clinical experiences are identified  
below. The Counseling Practicum is a 100 clock  
hour supervised clinical experience. Details of  
the requirements for the Internship are written in  
the Syllabus for that course. All clinical  
experiences will be supervised by qualified  
professional personnel, approved and verified by  
faculty who have Certified Rehabilitation  
Counseling (CRC).

Requiring practical/clinical experience  
within the didactic courses encourages the  
students to get 15-20 clock hours of immediate  
practice and application of the theory and  
knowledge acquired in the lectures from four  
specific rehabilitation domains.

**The four domains below each require 15-  
20 clock hours:**

RECN510	Vocational Counseling and Job Placement
RECN511	Assessment and Vocational Evaluation
RECN601	Group and Family Counseling
RECN603	High Tech/Low Tech Rehabilitation Systems

The practical/clinical experience  
competencies for each of the courses are  
outlined below and are consistent with the  
Council on Rehabilitation Education CORE  
competencies. Students are expected to express  
and experience, in these four courses,

knowledge consistent with the following  
competencies.

### **RECN 510 Vocational Counseling and Job Placement**

Vocational counseling and consultation  
services  
Planning for vocational services  
Vocational implications of various  
disabilities  
Job placement strategies  
Client job-retention skill development  
Job modification and restructuring  
techniques  
Job and employer development  
Job follow-up and post-employment  
services  
Accommodation and rehabilitation  
engineering  
Supported employment services and  
strategies  
Services to employer organizations  
Worker's Compensation  
Worker's compensation laws and  
practices

### **RECN 511 Assessment and Vocational Evaluation**

Vocational counseling and consultation  
services  
Assessment of physical-functional  
capacities of individuals  
Occupation and labor market  
information  
Theories of career development/work  
adjustment  
Computer application and technology  
Assessment and Evaluation  
Interpretation of assessment results  
Test and evaluation techniques for  
assessment

### **RECN 601 Group and Family Counseling**

Individual and Group Counseling  
Individual counseling practices  
Individual counseling theories  
Behavior and personality theory  
Human growth and potential  
Family counseling theories  
Group counseling practices and  
interventions  
Group counseling theories

Family, Gender, and  
Multicultural Issues  
Societal issues, trends, and  
developments  
Psycho-social and cultural impact on  
family  
Multicultural counseling issues  
Gender issues  
Family counseling practices

**RECN 603 High Tech/Low Tech  
Rehabilitation Systems (2)**

Vocational counseling and consultation  
services  
Job modification and restructuring  
techniques  
Accommodation and rehabilitation  
engineering  
Computer application and technology  
Environmental and Attitudinal Barriers  
Environmental barriers for individuals  
with disabilities  
Americans with Disabilities Act  
Compliance guidelines  
Job accommodation resources

**RECN 605 Counseling Practicum (2)**

The Counseling Practicum is exclusively devoted to fulfilling the Council on Rehabilitation Education recommendation for practical experience through the course RECN 605 Counseling Practicum. This is a 2 semester credit hour, 100 clock hour practical experience under the direct supervision of faculty who have fulfilled requirements to be Certified Rehabilitation Counselors (C.R.C). The practicum shall include on-campus and off campus audio and video taping of individual and group counseling experiences dealing with rehabilitation counseling concerns which will facilitate the further development of rehabilitation counseling skills. Course requirements, competencies, and the Code of Ethics will be made available in the syllabus for the course.

**RECN 612 Rehabilitation Counseling  
Internship (600 CRC  
-supervised clock hours) (6)**

A supervised Rehabilitation Counseling Internship enables the student's socialization into the field of rehabilitation counseling and the development of the appropriate professional

skills, experiences and competencies as outlined by the Commission on Rehabilitation Education (CORE) and the Commission on Rehabilitation Counselor Certification (CRCC). The students will gain knowledge that will enhance their ability to help individuals with disabilities find and maintain adequate vocational and personal independence. The internship experience will take place under the supervision of a qualified rehabilitation, rehabilitation related or allied health professional and involve direct experiences with persons with disabilities. Appropriate selected facilities involved in the rehabilitation of individuals who have a physical, mental, developmental, behavioral, or sensory disability will provide an opportunity for students to apply theories and skills. These facilities may include state departments of rehabilitation, centers for independent living, psychiatric hospitals or psychosocial programs, sheltered workshops, supported employment agencies, and institutions or organizations serving individuals with developmental disabilities, substance abusing persons, the industrially injured, agriculturally- or rural-related injuries, aged or adult/juvenile offenders. Students interested in higher education may opt to conduct their internship experience in the Services for Students with Disabilities program at an approved college or university.

**Didactic Course Descriptions**

**Note: Credit hours are in parentheses**

**RECN 501 Disability and  
Rehabilitation Policy (3)**

The purpose of this course is to examine, describe and discuss public and private sector policy as it impacts individuals with disabilities (physical and/or mental impairments that effect one or more major life activity). The philosophy of the course and its approach toward policy is presented in the context of systems and a bio-psycho-social approach to human development with the goal of attaining maximum quality of life and community inclusion. Topics include terminology, history, philosophy and legal aspects of rehabilitation and independent living, the state-federal vocational rehabilitation program, benefit systems, workers compensation, employer-based disability management, independent living, disability

legislation, and ethical issues.

**RECN 502 Theories and Counseling Techniques (3)**

This course is a survey and practice course in counseling and psychotherapy. The course covers the theoretical approaches and best practices of counseling with a focus on individuals with disabilities. The underlying assumptions of human nature and personality are covered in addition to the specific techniques associated with each. Students are encouraged to develop their own theory and practice of counseling centered around a thorough reflection on the individual's belief system, particular target populations they envision working, and individual traits, strengths, and weaknesses. Significant time is spent on experiential activities including dyads, triads, and role-playing. Ethical, legal, multicultural and research issues are also covered in depth.

**RECN 503 Cultural and Ethical Dimensions of Counseling (2)**

This course in rehabilitation counseling provides theoretical and practical (clinical) instruction in multicultural and ethical aspects of rehabilitation counseling. Topics include the historical perspectives of multiculturalism and cultural diversity in society, theories and models of identity development among diverse groups, supervisory issues, practical strategies and a review of current research. Ethical issues regarding counseling and direct rehabilitation service delivery are discussed from both a generic and multi-cultural perspective centered upon research-based concepts, specific skills and strategies. Direct role-playing and skill building exercises are employed along with case study methods and lectures. Students are encouraged to develop an awareness of different cultures, learned biases and how they may effect the counseling relationship. Other topics include independence versus interdependence, and specific strategies in rehabilitation counseling. The purpose of this course is to provide students with knowledge and skill that will maximize access and effectiveness in serving under-represented and culturally diverse populations, and to develop effective outreach strategies.

**RECN 504 Psycho-Social Aspects of Disabilities (2)**

The course covers concepts, skills and knowledge of the social and psychological factors that either directly or indirectly effect the quality of life, adjustment and full societal participation of individuals with severe disabilities. Particular focus is placed on coping mechanisms, individual, familial, and cultural attitudes, and strategies that seek to facilitate human dignity, productivity and inclusion. The course will address human growth and potential, attitudinal barriers and vocational implications of disability. Physical disability, mental illness, congenital, developmental and emotional disabilities are addressed. The social and psychological factors that contribute to resiliency and minimize vulnerability are emphasized.

**RECN 505 Medical Aspects of Disabilities (3)**

This course involves an exploration of medical information and disabilities from a systems perspective. The course incorporates fundamental medical terminology, medical practitioners, and health care systems. The health care and related systems will be explored in view of their vocational implications, service provision, and resources for intervention, treatment, or therapy for individuals with disabilities. Case studies of systemically related disabilities and how they are managed through the medical model will be explored through the symptomatology, diagnosis, prognosis, and treatment phases of the disabilities. Consumer transition from the medical to the service model will be discussed. The psycho-social and cultural impact of disabilities important to the rehabilitation process will be infused in the curriculum.

**RECN 510 Vocational Counseling and Job Placement (3)**

Concepts, principles, and skills related to the employment of individuals with physical, mental and congenital or developmental disabilities will be explored. Current best practices are covered within the context of various models, public and private, that seek to maximize productivity and life-long career pursuits. Areas of emphasis include: the vocational counseling process, marketing



the experience of individuals with disabilities. Students will learn processes and agencies for filing complaints and develop resources on the agencies specific to each element and Title of the ADA. The course will cover public policy, law, and practice, e.g., worker's compensation, and expert testimony. There will also be an emphasis on the organizational structure of private-for profit systems involved in rehabilitation. Additionally, legal issues germane to disability such as commitments, guardianships, and housing law will be discussed.

**Prerequisites:** RECN 501, 502, 503, 504, 505

### **RECN 603 High Tech/Low Tech Rehabilitation Systems (3)**

This course will provide an overview of high/low technology focused on adaptive and assistive rehabilitation technology, including aids for daily living. This technology will assist individuals with disabilities to achieve their maximum potential and provide training to students interested in gaining expertise in the use of technology while working with people with disabilities across the human lifespan. The student will become familiar with advanced computer technology such as Enabling Technologies (Braille/print systems), Dragon Dictate (speech input software), adaptive devices for computers, computer technology such as AlphaSmart, IntelliKeys, Delta Talker and a broad array of computer application technology available for working with individuals who are blind, deaf, or physically disabled. Other technology to be taught will include augmentative communication devices, voice output, e.g. outSPOKEN (enable individuals who are blind to access Macintosh). This course will have a practical application of knowledge and didactic preparation for understanding the value and use of advanced technology. Technology for working with people with learning disabilities and a broad range of developmental disabilities will be included. Between 15-20 clock hours practical of in vivo supervised rehabilitation technology are required. **Prerequisite:** RECN 501

### **RECN 604 Program Evaluation & Organizational Development (3)**

This course addresses current best practices in program evaluation. Program evaluations are fundamental to good planning. In order to plan and implement effective, valid and accurate evaluations, an understanding of organizational behavior and developmental concepts are significant. The increasing emphasis upon outcomes and program efficacy, necessitates knowledge and skill in determining return on investment, organizational effectiveness, cost/benefit analysis, research and planning as well as determining whether the needs of a constituency are being met. This course will focus on organizational factors, and evaluation design and technique. Upon successful completion, the student will be able to design, implement, and interpret the results of a basic evaluation strategy and possess a basic understanding of essential organizational behavior and planning processes. These skills are fundamental to effective and progressive organizational development and service to individuals with disabilities. **Prerequisite:** RECN 513

### **RECN 610 Master's Seminar (2)**

The Master's Seminar will focus on the review of current literature, and will include reading and discussion of specific aspects of rehabilitation. Topics include, but are not limited, to: adaptive/assistive rehabilitation technology, Centers for Independent Living, Supportive Employment, Order of Selection, Ethical Issues, Americans with Disabilities Act, Disability Management, Job Development, Assessment, Cultural Diversity and current legislation on disability issues. The outcomes for this class are an increased interest and proficiency in rehabilitation research, oral and written presentation and publication.

**Prerequisites:** RECN 501, 502, 503, 504, 505, 510, 511, 512, 513, 601

### **RECN 799 Thesis Research (3)**

Thesis research must be submitted for the Master of Science degree unless the Student elects the non-thesis option. Approval of the thesis topic, final thesis document and defense are the responsibility of an examining committee nominated by the student's advisor and approved

by the Graduate School. The advisor is the chairperson of the committee, and the remaining two members of the committee are members of the Graduate Faculty who are familiar with the student's program of study and research.

**The non-thesis option** includes the completion of alternative elective coursework of three credit hours in lieu of RECN799, as well as comprehensive written and oral examinations. The written examination covers six cognate areas of the curriculum content, the oral examination, an additional four cognate areas. RECN 799 cannot be applied to the non-thesis option as coursework should a student elect to change from the thesis option to the non-thesis option.

#### **ADMISSION CRITERIA**

- Besides the application and required attachments (see application for graduate admission booklet checklist), the Graduate Record Examination (GRE) [General Test] or Miller Analogies Test (MAT) scores may be submitted as optional support.
- Bachelor's Degree with minimum 3.0 cumulative GPA on a 4-point scale for regular admission. Provisional admission will be considered for students with a GPA of 2.5 to 2.99 as long as all other requirements have been fulfilled.
- Personal Interview.
- By accepting admission into the Master of Science in Rehabilitation Counseling program, the applicant agrees to: a) complete pre-requisites, and in the time frame given, b) maintain a 3.0 GPA for all semesters of coursework, c) practice professional conduct in accordance with UMES policies, NRCA/ARCA Code of Ethics, local and state laws. Failure to maintain a 3.0 GPA will result in a probationary period or termination as determined by the Department of Rehabilitation Services Graduate Committee and Graduate School policy.
- Denial of admission may be made for reasons, which will be outlined for potential future amelioration. Acceptance is based on the listed

criteria above and the availability of limited space. These criteria are designed to establish high standards of service and instruction consistent with accreditation recommendations.

#### **Prerequisite undergraduate coursework**

- An introductory course in Human Services such as the UMES course REHA 201 - Introduction to Rehabilitation, Introduction to Psychology, Abnormal Psychology, Developmental Psychology, and/or Introduction to Sociology
- Basic statistics course
- Comparable undergraduate courses will be reviewed for equivalencies

#### **APPLICATION DEADLINES**

**Fall Semester – May 1**

**Spring Semester – November 1**

#### **RETENTION -DISMISSAL – REINSTATEMENT/READMISSION POLICY**

- Cumulative G.P.A. of 3.0 each semester.
- Maximum of two (2) grades of C in a semester results in academic probation. Students have two consecutive semesters in which to raise their cumulative GPA to 3.0, or be subject to academic dismissal.
- A grade of D or F is subject to academic probation and/or dismissal from the program. Readmission or reinstatement is provisional and contingent upon repeat of the class with grade of A or B.
- Request to repeat a course because of deficient grade earned is provisional and must be a written petition submitted to the Department Chair with the signature and recommendation of the Advisor.
- Readmission or reinstatement is at the discretion of the Department of Rehabilitation Services Graduate Committee.
- Successful completion of internship, thesis or comprehensive written and oral examinations as applicable and

according to graduate school policy/procedures.

### **Transfer and Waiver Courses**

Students have up to a 6 credit hour limitation for transfer of equivalent courses, unless those courses were completed with a cumulative GPA of 3.0 in a comparable CORE accredited program. Evaluation and approval of graduate transfer courses will be up to the Department of Rehabilitation Graduate Committee.

Additionally, students completing the undergraduate program in the Rehabilitation Services with a cumulative GPA minimum of 3.0 can elect to request exemption from up to 6 credit hours of rehabilitation comparable core courses where they have earned a grade of A in the undergraduate course. See advisor for the courses where waiver(s) are allowable. The credit hour substitutions need to be program/career related and approved by the Academic Advisor.

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**For further information on this program, please contact:**

Graduate Program Coordinator  
Department of Rehabilitation Services  
University of Maryland Eastern Shore  
Princess Anne, MD 21853

## CRIMINOLOGY AND CRIMINAL JUSTICE

### Objectives of the Program

The Master of Science degree at the University of Maryland Eastern Shore (UMES) is a one to two year program designed to produce quality-based and critically-oriented scholars in criminology and criminal justice, with an in-depth knowledge of the functioning of the criminal justice system. The Master of Science in Criminology and Criminal Justice (MCCJ) Program is interdisciplinary and seeks qualified students with baccalaureate degrees in criminal justice and other disciplines as well as professionals in the field who desire to further their degrees in criminal justice. The program also prepares students for doctoral work in the discipline. Graduate education in Criminal Justice at UMES, the only such program on the Eastern Shore of Maryland, will be useful to criminal justice agencies in the state. Graduate education in the discipline has become the generally sought academic experience for optimum performance within the criminal justice system.

The major objectives of the Master of Science in Criminology and Criminal Justice are to:

1. enhance students' knowledge in criminology and criminal justice with the potentialities and opportunities for doctoral work and advancement of this body of knowledge;
2. provide students with the skills to engage in original and independent scholarly research in criminology and criminal justice;
3. enhance students' capacity to critically evaluate the criminal justice system and to hold management and research positions in the public and private sectors;
4. increase students' knowledge of qualitative and quantitative research in criminology and criminal justice and provide them with the necessary skills to be effective researchers, program evaluators, consultants in the field, and users of existing criminological research data;

5. assure that students acquire an understanding of an integrative minority perspective in criminological thought;
6. increase students' knowledge and appreciation of various theoretical explanations of criminal behavior.

### Description of the Program

All Master's degree students are required to take five core courses (MCCJ 600, 620, 625, 631, 640). A grade of "B" (3.0) or better must be achieved in each core course. Each Master of Science degree student may specialize in one concentration area. These include Criminology and Research (CR), Law Enforcement and Courts (LEC), and Corrections and Delinquency Prevention (CDP). The Master of Science degree is granted upon completion of one of two program options:

**Thesis Option** - The thesis option requires the successful completion of twenty-four (24) semester hours of course work and a minimum of six (6) hours of credit on an original thesis. This research-oriented option of thirty (30) credit hours is designed for students who anticipate pursuing their academic career to the doctoral level. Students electing this option must form a thesis committee. A minimum committee consists of a major professor and two additional faculty members, all of whom must be a UMES graduate faculty member. The major professor and one member of the thesis committee should be selected from the Department of Criminal Justice Faculty. The third committee member must be selected from campus approved graduate faculty. A successful oral defense of the thesis is required.

**Course Work Option** - The course work option requires that the student completes thirty-six (36) credit hours of course work. This option does not require completion of a major paper.

### Structure of The Program

*Core courses include the following:*  
MCCJ 600 Proseminar in Criminology and Criminal Justice (3 credits)  
MCCJ 620 Theoretical Perspectives on Crime



and Justice (3 credits)  
 MCCJ 625 Research Methods in Criminology  
 and Criminal Justice (3 credits)  
 MCCJ 631 Applied Statistics in Criminology  
 and Criminal Justice (3credits)  
 MCCJ 640 Minorities, Crime, and Justice  
 (3 credits)

*Areas of concentration include:*

Criminology and Research - CR  
 Law Enforcement and Courts - LEC  
 Corrections and Delinquency  
 Prevention - CDP

**Thesis Option**

Minimum of **30** credit hours:

Core courses	15
Concentration courses	6
Electives	3
Thesis	6

***Non-Thesis Option (Course Work)***

Minimum of **36** credit hours:

Core courses	15
Concentration courses	18
Electives	3

**Graduate Student Responsibility (Thesis Option)**

Each student will select a major professor according to his/her area of concentration. Major professors must be selected from the faculty of the Criminal Justice Department who are associate/regular members of the UMES Graduate Faculty. The student, in consultation with his/her major professor, selects the Graduate Committee before the expiration of the second semester following matriculation. The committee includes a major professor from the Department of Criminal Justice and two other faculty members, one of whom must come from the Criminal Justice Department. A student may select an associate or regular member of the Graduate Faculty from another discipline

Thesis option graduate students are responsible for all aspects of the preparation of the thesis, including the following:

1. subject matter and content;
2. organization and format;
3. editorial, linguistic and bibliographic quality;
4. quality of text, illustrations and duplication;
5. quality of data, evidence and logical reasoning presented;
6. proper processing and submission of the final copies of the document to the Graduate School.

**The Advisory Committee's Responsibility**

The chair and to a lesser extent, the other members of the advisory committee, are responsible for the following aspects of the thesis and the related or associated research experience:

1. approval of the subject matter and methodology of the thesis research;
2. approval of the organization, content and format of the thesis;
3. review of and comment on drafts of various aspects of the thesis;
4. evaluation of the thesis as a basis for certification that the student has fulfilled the degree requirements;
5. encouragement of and advice to the student and review of manuscripts based on the thesis research for publication in scholarly journals.

**Retention And Exit Requirements**

All students, regardless of area of concentration or program option chosen, must maintain an overall 3.0 grade point average, complete degree requirements in five (5) years or less, and successfully pass a written comprehensive examination. The written comprehensive examination may be attempted a maximum of two times.

**Admissions**

All regular requirements of the university, as set forth in the catalog, must be met prior to admission into the Master of Science Program in the Department of Criminal Justice. The admission criteria are:

1. Bachelor's degree from an accredited institution
2. 3.0 cumulative grade point average (GPA) or better—on a 4.0 scale—on overall undergraduate course work for regular admission students; 2.5 to 2.99 cumulative GPA for provisional admission students.
3. Three letters of recommendation from persons capable of adequately assessing the applicant's potential for success in the program
4. Graduate Record Examination (GRE) [general test]. An exceptional GPA may offset a weak performance on the GRE
5. An interview by the admissions committee

### **APPLICATION DEADLINES**

Application deadlines are:

**Fall Semester - April 15**

**Spring Semester - October 30**

**Summer Sessions - April 15**

### **Employed Professionals**

The MCCJ Program acknowledges the correlation between theory and research on the one hand and practical application on the other. The MCCJ Program strongly invites criminal justice practitioners and other professionals to enroll in the program. The overall objective is to prepare practitioners for advanced administrative positions in criminal justice and other related agencies. Students may elect to complete the program requirements for graduation on either a full-time or part-time basis (five-year limit for the duration of the program). The program courses will to the extent possible be offered in the evenings in order to accommodate employed practitioners. Courses may also be offered on weekends.

### **Financial Assistance**

The University of Maryland Eastern Shore recognizes the high cost of education and makes every effort to offer financial assistance, through a variety of programs, to qualified students. In addition, federal loans are available to graduate

students through the university's financial aid office. For additional information about loans and other sources of aid, contact the Financial Aid Office.

### **Faculty of The Department of Criminal Justice**

The Department of Criminal Justice is interdisciplinary with faculty holding advanced degrees in various disciplines, including law, sociology, public administration, and criminology. All resident faculty in the department are expected to teach in both the graduate and undergraduate programs. All faculty members, except adjunct lecturers, provide student counseling and serve as advisors to students in the department.

### **DESCRIPTION OF COURSES**

**(NOTE: Credit Hours are denoted in parentheses)**

#### **Core Courses**

#### **MCCJ 600 Proseminar in Criminology and Criminal Justice (3)**

This course is designed as an in-depth analysis of criminological issues and components of the criminal justice system for students with diverse undergraduate backgrounds. It employs an integrated systems approach toward thinking about crime and its causes and covers the history of criminological thought as well as multidisciplinary attempts at crime explanation.

#### **MCCJ 620 Theoretical Perspectives on Crime and Justice (3)**

This course is a survey of criminological theories with emphasis on crime causation and justice. Included are sociological, economic, geographic, and political theories of law formation and law breaking; development of physiological, genetic, psychological, and psychiatric perspectives of criminal behavior and the relationship between theory and policy.



general. Included in the course are institutional security, challenges of violence in the workforce, industrial and retail security, various forms of preventing losses, and risk management.

**MCCJ 652 Survey of the Correctional Field (3) CDP**

This course examines the dynamics of American correctional techniques and rationale from the 1700's to date. It familiarizes students with the history, philosophy, and evolution of correctional practice in America.

**MCCJ 654 History of African American Criminological Thought (3) CR; LEC; CDP**

This course is designed to provide the student with knowledge of and understanding of African American perspectives on criminology and criminal issues. The course is intended to give graduate students perspectives that are often omitted from mainstream undergraduate criminal justice curriculums. The materials used in this course are relatively broad covering both historical and contemporary African American thought. The perspectives considered have analyzed the issues with an emphasis on how they impact and are impacted by race.

**MCCJ 656 Law Enforcement (3) LEC; CDP**

This course analyzes the problems, practices, and philosophies of law enforcement in contemporary society. It gives special attention to particular areas, such as personnel selection, police-community relations, crisis intervention, patrol intervention, police brutality, and criminal profiling.

**MCCJ 658 Law and Courts (3) LEC; CDP**

This course considers the definitions and development of criminal law, criminal procedure, criminal rights, and constitutional theory and practice. It also examines the structure, functions, and operations of the courts, with special emphasis on principles of legality as provided by the US constitution.

**MCCJ 659 Theories of Juvenile Delinquency (3) CR; LEC; CDP**

This course examines theories of juvenile delinquency, environmental influences on juvenile offenders, control, and corrections of the juvenile offender. It will investigate the special forms of justice applied to non-adults by arrest, detention, adjudication and juvenile corrections.

**MCCJ 700 Public Policy in Criminal Justice System (3) CR; LEC; CDP**

This course examines the assumptions, context, and environment for the formulation and implementation of public policy. The issues of morality and politics will provide a subtext for discussion and analysis of contemporary public policy. There will also be a discussion and identification of stakeholders.

**MCCJ 710 Law and Social Control (3) LEC; CDP**

Select topics in Law and Social Control are examined in this course. Topics -- which may vary from semester to semester--include mental illness and the law, individual rights and public welfare, comparative criminal law and procedure, sanction law and public order, authority and power, and indirect social control in criminal justice.

**MCCJ 720 Seminar in Community Policing (3) LEC**

This course focuses on the problems and practices of contemporary law enforcement and uses current scholarship to understand police-community relations.

**MCCJ 730 Seminar in Terrorism (3) CR; LEC; CDP**

This course is a review of historical and contemporary knowledge on the many terrorism-crime relationships. It includes a survey of the literature that examines patterns of terrorism, domestic, global, and technological terrorism and a review of articles that examine theories, causes, ideology, typologies, security problems, media, structure, and issues in counterterrorism.

**MCCJ 740 Comparative Criminology  
and Criminal Justice (3)  
CR; LEC; CDP**

This course examines criminal justice institutions comparatively in several countries. The purpose will be to describe the variety of criminal justice experience, to understand the determinants of these variations, and enhance the understanding of what works, what doesn't, and why in the criminal justice system.

**MCCJ 750 Seminar in Probation and  
Parole (3)  
CDP**

This course is an in-depth examination of selected area within the broader field of corrections. Specific attention will be paid to analysis of theories and practice of probation and parole, responses of paroling authorities to public pressures, and court controls and their implications for rehabilitative efforts. It assesses the feasibility and effectiveness of treatment of individuals under sentence in the community.

**MCCJ 760 Qualitative Methods in  
Criminology (3)  
CR; LEC; CDP**

This course is an examination of ethnographic and qualitative fields methods and their application to problems of crime and criminal justice. It is focused on familiarizing students with the nature and utility of qualitative fieldwork in various areas of criminological research.

**MCCJ 770 White Collar and  
Governmental Crimes (3)  
CR; LEC; CDP**

Special topics in White Collar and Governmental Crimes are examined in this course from a criminological perspective. White collar crimes and government crimes include fraud, embezzlement, price-fixing, antitrust violations, income - tax evasion, misuse of public funds, and abuse of political and legal powers.

**MCCJ 780 Seminar in Criminological  
Theory and Research (3)  
CR**

This course is an exploration of the etiology of crime, theory development and crime causation. Emphasis will be placed on theoretical

perspectives, research, and ideological dialectics. Bio-criminology, employing an integrated systems approach, will also be examined.

**MCCJ 782 Advanced Seminar in Police  
and Society (3)  
CR; CDP**

This course is a survey of literature examining historical and current issues and problems in policing with emphasis on the legal aspects of law enforcement.

**MCCJ 699 Directed Individual Study  
(1-3)  
CR; LEC; CDP**

This course involves study under the supervision and guidance of a faculty member.

**MCCJ 786 Field Practice in Criminal  
Justice (1-3)  
CR; LEC; CDP**

This course involves firsthand experience in the day-to-day operation of a criminal justice program under the guidance and supervision of a faculty member and a practitioner in the field.

**MCCJ 790 Master's Comprehensive  
Examination (0)  
(s/u grade only)**

This course is required of all students involved in the Master of Science program with the consent of the major professor.

**MCCJ 798 Master's Seminar Paper  
(1-3)  
CR; LEC; CDP**

This course culminates in the completion of the Master's Seminar Paper for those students electing the non-thesis option. The paper focuses on a major criminology or criminal justice issue.

**MCCJ 799 Master's Thesis  
(1-6)  
CR; LEC; CDP**

This course is required of all students involved in preparation, data collection, and writing of the Master of Science (MS) thesis.

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**For further information on this program,  
please contact:**

Graduate Program Coordinator (MCCJ)  
Department of Criminal Justice  
University of Maryland Eastern Shore  
Princess Anne, MD 21853

## GUIDANCE AND COUNSELING

The Guidance and Counseling program offers graduate work leading to a Master of Education (M.Ed.) degree. The school counseling program is approved by the Maryland State Department of Education to meet competency area requirements for school certification (K-12).

The program prepares students to become entry-level, human development specialists. The M.Ed. level program constitutes the initial professional preparation for students desiring employment in public or private schools or non-educational agencies. The course of study is based on the Council for the Accreditation of Counseling and Related Educational Programs (CACREP) national standards. The state's Essential Dimensions of Teaching (EDoT) standards are also addressed as appropriate.

### Admission Criteria

The Guidance and Counseling Program Admissions Committee recommends students to the UMES Graduate School for admission to the program. Entrance requirements include:

- A. Bachelor's degree from an accredited institution;
- B. Course preparation in education, psychology and human development. Students are expected to have completed the following undergraduate courses prior to entry into the program: Human Growth and Development, Tests and Measurements, Introduction to Special Education and Introduction to Psychology. Students who have not completed course work in these areas may be required to do so before being admitted to the program; and/or be required to take EDGC 610 Advanced Psychology;
- C. 3.0 average or better on a 4.0 scale in undergraduate course work;
- D. Three letters of recommendation from persons capable of assessing the applicant's potential for success in a Guidance & Counseling graduate program;

- E. An interview with the Admissions Committee.

### Application Deadlines

Application deadlines are:

<b>Fall Semester</b>	-	<b>May 1st</b>
<b>Spring Semester</b>	-	<b>November 1st</b>
<b>Summer Session</b>	-	<b>April 1st</b>

### Provisional Admission

Applicants who possess an overall GPA of between 2.75 to 2.99 will be admitted to Provisional Status. Provisional Status students must maintain a 3.30 average in the first nine approved credit hours of graduate level courses in Guidance and Counseling. In exceptional cases, students who possess an overall GPA of 2.5 - 2.74 and yet show promise may be considered for Provisional Status. All students applying for admission with less than a 3.0 cumulative GPA must take the GRE or the Miller Analogies Test.

A student who is considered to have potential for success, but lacks adequate course preparation for Guidance and Counseling, will complete a minimum of nine additional semester hours in the basic prerequisites prior to consideration and/or approval for formal admission.

### Exit Requirements

A 100 clock hour practicum and a 400 clock hour Internship are required for all students. The practicum and internship are supervised counseling experiences in which students are required to integrate and apply the knowledge and skills acquired throughout the program. Students seeking certification as a school counselor are placed in school settings at the elementary/middle and high school levels where they can participate in all activities that a professional school counselor is expected to perform. Other students are placed in appropriate agencies where they can participate in all activities expected by a community counselor. Application to take the practicum must be filed with the department one semester before the student plans to take it. Approvals of

advisor and the program coordinator are required.

A **written comprehensive examination** is required to ensure the mastery of the program competencies. Core courses must be completed before the comprehensive examination is taken.

The completion of a **seminar paper** demonstrating research competency is required. The Advisor for the paper, the Graduate Program Coordinator, and the Chair of the Education Department **must** approve this paper.

The M.Ed. degree student **must maintain a 3.0 grade point** average. No grade in any program course which is lower than a “C” is acceptable for retention in the program.

A minimum of 48 credit hours is required for completion of the master’s degree program in Guidance and Counseling.

**Program Objectives:**

The general objectives of the program are:

- A. To help students develop personal and interpersonal qualities and skills that are necessary to function in helping others; and
- B. To provide students with the competencies needed to demonstrate knowledge and skills that are necessary for counselors in school settings and human development specialists in non-school settings.

**Guidance and Counseling Courses**

Based upon the applicant's background and interests, a course of study will be planned with the advisor that is congruent with the student’s career goals. Curriculum options are: (1) School Counseling K-12; or (2) Community Counseling.

**(NOTE: CREDIT HOURS FOR ALL THE FOLLOWING COURSES ARE GIVEN IN PARENTHESES.)**

**GUIDANCE AND COUNSELING  
SCHOOL PROGRAM (K-12)**

**CORE COURSE/COMPETENCY REQUIREMENTS**

- EDGC 601 Introduction to Guidance & Counseling (3)
- EDGC 604 Theories and Techniques of Counseling (3)
- EDGC 605 Individual and Group Appraisal (3)
- EDGC 606 Pre-Practicum (Clinical Applications of

- Counseling) (3)
- EDUC 620 Human Growth and Development (3)
- EDGC 631 Career/Life Development (3)
- EDGC 640 Group Processes in Counseling (3)
- EDGC 643 Counseling Children and Adolescents (3)
- EDGC 645 Cross Cultural Perspectives in Counseling (3)
- EDGC 660 Crisis Management in Counseling (3)
- EDGC 670 Ethical, Legal and Professional Issues in Counseling (3)
- EDGC 677 Practicum in School Counseling (3)
- EDUC 690 Introduction to Behavioral Research (3)
- EDGC 697 Advanced Practicum in Counseling (3)
- EDGC 698 Seminar in Guidance and Counseling Elective (2-6) (3)

**COMMUNITY COUNSELING**

**CORE COURSE/COMPETENCY REQUIREMENTS**

- EDGC 602 Introduction to Community Counseling (3)
- EDGC 604 Theories and Techniques of Counseling (3)
- EDGC 606 Pre-Practicum (Clinical Applications in Counseling) (3)
- EDGC 612 Marriage and Family Counseling (3)
- EDUC 620 Human Growth and Development (3)
- EDGC 631 Career/Life Development (3)
- EDGC 640 Group Processes in Counseling (3)
- EDGC 645 Cross Cultural Perspectives in Counseling (3)
- EDGC 655 Social Diversity in Counseling (3)
- EDGC 660 Crisis Management in Counseling (3)
- EDGC 670 Ethical, Legal, and Professional Issues in Counseling (3)
- EDGC 679 Practicum in Community Counseling (3)
- EDUC 690 Introduction to Behavioral Research (3)
- EDGC 698 Seminar in Guidance and Counseling (2-6)
- EDGC 699 Advanced Practicum in Community Counseling Elective (3) (3)

**ELECTIVE COURSES**

The student may select additional electives to complete degree requirements from the following offerings upon approval by the advisor.

- SPED 481 Characteristics and Programming for the Gifted (3)
- EDGC 655 Social Diversity in Counseling (3)
- EDGC 612 Marriage and Family Counseling (3)
- EDGC 665 Special Topics (maximum 6 credits) (1)
- EDGC 610 Introduction to Advanced Psychology (3)
- SPED 600 Introduction to Special Education (3)
- SPED 491 Characteristics and Programming for the Learning Disabled (3)
- EDSP 498 Foundations of the Education of Exceptional Children (3)
- EDGC 609 Special Problems in Guidance and Counseling (1-3)
- CDSP 628 Computer Application in Education (3)
- EDGC 646 Organization and Administration of Guidance Program (3)
- SOWK 455 Substance Abuse Issues and Services (3)
- HUEL 460 The Family and Aging (3)
- EDGC 798 Research Project (1-3)
- SPED 630 Current Legal and Advocacy Issues in Special Education (3)



## COURSES

### **EDGC 601 Introduction to Guidance & Counseling (3)**

This course is an overview of the field of guidance and counseling, providing knowledge of the historical and philosophical foundations of guidance and counseling and their implications for professional practice. Professional activities and ethical practices of counselors and other helping professionals in both educational and non-educational settings are explored. Exploration of how personal values interact and impact upon counseling are examined.

### **EDGC 604 Theories & Techniques of Counseling (3)**

The course focuses on counseling theories and techniques, with emphasis on their applicability to specific counseling settings and counselor orientation.

### **EDGC 612 Marriage & Family Counseling (3)**

This course focuses on counseling theory and techniques as related to families and couples, with an emphasis on the unique aspects of marriage and family relationships. Analysis of family dynamics and the use and interpretation of genograms are presented.

### **EDGC 660 Crisis Management in Counseling (3)**

This is an overview of applied therapeutic counseling in general and crisis intervention in particular. There is an emphasis on intervention strategies that work when people are in crisis. Counseling and counselor issues that will be effective in any crisis are explored. Topics such as suicide, sexual assault, posttraumatic stress disorder, and bereavement and grief are addressed.

### **EDUC 620 Human Growth & Development (3)**

This course is a general overview of life-span development from conception through late adulthood. The scientific study of the quantitative and qualitative ways people change over time is examined. The use of theory and other information through application of

scientific principles in the study of a child may be included.

### **EDUC 690 Introduction to Behavioral Research (3)**

This course introduces the various methods and techniques of educational research. It provides intensive experience both in reading, analyzing and interpreting educational research and in writing abstracts, reports on research and seminar papers.

### **EDGC 640 Group Processes in Counseling (3)**

The study of the dynamic processes that occur in groups and their application to group counseling is the focus of this course. It examines group stages, leadership styles and the importance of verbal and non-verbal communication in a laboratory setting. Social and cultural issues such as race, gender and social class are also addressed. Actual involvement in group process is required.

### **EDGC 643 Counseling Children and Adolescents (3)**

This course examines counseling theory and techniques as related to children and adolescents. It emphasizes how to plan and implement counseling strategies appropriate to the development stages and need of each group.

### **EDGC 605 Individual and Group Appraisal (3)**

The course focuses on the following topics: understanding of group and individual educational and psychometric approaches to appraisal, use and interpretation of both standardized and non-standardized appraisal data, and planning and administering testing programs.

### **EDGC 645 Cross-Cultural Perspectives in Counseling (3)**

This course examines barriers in effective cross-cultural counseling. There is an emphasis on understanding cultural characteristics on visible racial/ethnic groups. Issues of racial identity world view and bias awareness are addressed.

### **EDGC 665 Special Topics (1)**

This course number and title are intended to be a mechanism for students to take 1 credit courses

on special topics that are cutting edge in the field of counseling and/or completion of program skills and requirements. All courses will be listed as 665 with a letter to delineate which course was taken (e.g. 665a-technology in counseling; 665b-gerontological counseling; 665c-Adlerian counseling; 665d-seminar II).

**EDGC 610 Introduction to Advanced Psychology (3)**

This is a survey course which reviews major psychological concepts of human development and behavior. The intent of this course is to provide a foundation to students with a minimal background in psychology and the social sciences who intend to enter the field of counseling. Emphasis is given to personality theory, abnormal psychology, and adjustment.

**EDGC 670 Ethical, Legal and Professional Issues in Counseling (3)**

The study of the role of the counselor in relation to ethical and legal issues and dilemmas is explored. Emphasis is placed on the dynamic interactions and processes between counselor, individuals, and institutions. Topics such as standards, licensure, accountability, liability, and professional development will be addressed.

**EDGC 631 Career and Life Development (3)**

This course is the study of topics on: career development theories, the relationship between career choice and life style, sources of occupational and personal/social information, career decision-making processes and career development explanation techniques.

**EDGC 698 Seminar in Guidance and Counseling (3)**

The opportunity to research professional issues is provided, culminating in an approved seminar paper.

**EDGC 606 Clinical Applications of Counseling (Pre-practicum) (3)**

Students conduct the initial stages of counseling with individuals, who present a variety of personal, educational, and vocational concerns. Students will establish realistic goals with the client and evaluate the extent to which goals

were reached. Students will describe their own well formulated theory of counseling.

**EDGC 655 Social Diversity in Counseling (3)**

This course is study of the nature, characteristics, and needs of socially diverse client groups seeking counseling. Socially diverse groups will include those with differing life-styles, physical disabilities, learning disabilities, the gifted and talented, the elderly, the obese and women. An emphasis will be placed on societal oppression, treatment, discrimination, and specific counseling issues related to these socially diverse groups.

**EDGC 677 Practicum in School Counseling (3)**

This course assists counselor trainees in acquiring a broad and varied background of knowledge, skills and abilities, as well as certain personal characteristics, in order to perform their roles effectively and efficiently. The trainee must demonstrate under supervision the ability to integrate and apply theories and techniques in providing direct counseling services for individuals and groups and to participate in appropriate professional activities in the practicum setting. **PREREQUISITE: Must obtain the permission of the Coordinator of the Guidance and Counseling Program to enroll in this course.**

**EDGC 697 Advanced Practicum in School Counseling (3)**

This course is an advanced group supervision experience (taken in conjunction with the second practicum placement) which seeks to provide a capstone experience that prepares students for a career as a professional counselor.

**EDGC 602 Introduction to Community Counseling (3)**

This course focus on planning, implementation, administration, and evaluation of human service systems affecting communication. Major organization theories, management styles, administrative techniques and study of relevant issues in human services delivery in a community setting are explored.

**EDGC 609 Special Problems in Guidance and Counseling (1-3)**

This course consists of individual projects geared to specific needs of students. It allows students to study independently in topical areas related to counseling. Specific requirements related to each independent study are approved on an individual basis.

**PREREQUISITE: Written permission of adviser is required.**

**EDGC 646 Organization and Administration of Guidance Program (3)**

This course examines the evolution of content-based comprehensive guidance programs and why guidance programs are an integral part of the school curriculum. It provides the student with experience in developing and implementing a comprehensive program.

**EDGC 679 Practicum in Community Counseling (3)**

This course assist community counselor trainees in acquiring a broad and varied background of knowledge, skills and abilities, as well as certain personal characteristics, in order to perform their roles effectively and efficiently.

**PREREQUISITE: Must obtain the permission of the Coordinator of the Guidance and Counseling Program to enroll in this course.**

**EDGC 699 Advanced Practicum in Community Counseling (3)**

This course is an advanced group supervision experience (taken in conjunction with the second part of practicum placement) which seeks to provide a capstone experience that prepares students for a career as a professional counselor.

**SEQUENCE OF COURSES FOR GUIDANCE AND COUNSELING**

**SCHOOL PROGRAM (K-12)**

**1ST YEAR**

**FALL**

EDGC 602 Introduction to Guidance & Counseling

EDGC 604 Theories and Techniques of Counseling  
EDUC 620 Human Growth and Development

**JANUARY**

EDGC 665 Special Topics in Counseling

**SPRING**

EDUC 690 Introduction to Behavioral Research  
EDGC 640 Group Processes in Counseling  
EDGC 645 Cross-Cultural Perspectives in Counseling

**2ND YEAR**

**FALL**

EDGC 606 Pre-Practicum (Clinical Applications in Counseling)  
EDGC 631 Career/Life Development  
EDGC 605 Individual and Group Appraisal

**JANUARY**

EDGC 665 Special Topics in Counseling

**SPRING\*\***

EDGC 670 Ethical, Legal, and Professional Issues in Counseling  
EDGC 660 Crisis Management in Counseling  
EDGC 643 Counseling Children and Adolescents

**3RD YEAR**

**FALL**

EDGC 677 Practicum in School Counseling  
EDGC698 Seminar in Guidance and Counseling

**SPRING**

EDGC 697 Advanced Practicum in School Counseling  
Elective

\* For full-time student

\*\* Comprehensive exams should not be taken before this time.

**SEQUENCE OF COURSES FOR  
COMMUNITY COUNSELING**

**1ST YEAR**

**FALL**

EDGC 602 Introduction to Community  
Counseling  
EDGC 604 Theories and Techniques of  
Counseling  
EDUC 620 Human Growth and  
Development

**JANUARY**

EDGC 665 Special Topics in Counseling

**SPRING**

EDUC 690 Introduction to Behavioral  
Research  
EDGC 640 Group Processes in Counseling  
EDGC 645 Cross-Cultural Perspectives in  
Counseling

**2ND YEAR**

**FALL**

EDGC 606 Pre-Practicum (Clinical  
Applications in Counseling)  
EDGC 631 Career/Life Development  
EDGC 655 Social Diversity in Counseling

**JANUARY**

EDGC 665 Special Topics in Counseling

**SPRING\*\***

EDGC 670 Ethical, Legal, and Professional  
Issues in Counseling  
EDGC 660 Crisis Management in  
Counseling  
EDGC 612 Marriage and Family  
Counseling

**SPECIAL EDUCATION**

**3RD YEAR**

**FALL**

EDGC 679 Practicum in Community  
Counseling  
EDGC 698 Seminar in Guidance and  
Counseling

**SPRING**

EDGC 699 Advanced Practicum in  
Community Counseling  
Elective

\* For full-time student

\*\* Comprehensive exams should not be taken before this time.

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**For further information on this program,  
please contact:**

Graduate Program Coordinator  
Guidance and Counseling  
Department of Education  
1125 Lida Brown Building  
University of Maryland Eastern Shore  
Princess Anne, MD 21853

The Department of Education provides a  
Master of Education (M.Ed.) program in Special

Education with emphasis on students with mild and moderate disabilities in grades 1-12. The Special Education Program is a Maryland state-approved program at both the undergraduate and graduate levels.

The graduate program is designed to develop and refine the graduate student skills as classroom teachers, inclusion teachers, resource teachers, teacher consultants, academic coaches, or as specialists in alternative educational settings. **Students must complete the M.Ed. degree with certification if not already certified in special education.** They may opt for coursework leading to certification in grades 1-8, 6-12, or both.

The course of study varies with the experience and qualifications that individual students bring to the program.

**Students may not enroll in the program for certification only.**

## PROGRAM GOALS

The overall goal of the Special Education Program is to prepare students to become effective special educators for mild and moderately disabled students in grades 1-12 and to meet the certification and professional standards of the Maryland State Department of Education, the Council for Exceptional Children, and the principles of the Interstate New Teachers Assessment Support Consortium (INTASC). To accomplish this goal, there are four major objectives:

1. To help each student develop and refine the personal and interpersonal qualities and skills necessary to function intellectually, emotionally, and socially with others in the capacity of teacher or facilitator;
2. To prepare teachers and leaders who are knowledgeable of research, theory and practice related to effective classroom and program management;
3. To develop teachers and leaders who are committed, continuous learners, and contributors to the enhancement of the teaching profession; and
4. To prepare teachers and leaders who demonstrate sensitivity and effective

interpersonal skills in working with culturally diverse populations.

## PROGRAM COMPETENCIES

Program competencies and outcomes are consistent with those of the Council for Exceptional Children (CEC), the major professional organization representing special educators, the Interstate New Teachers Assessment and Support Consortium (INTASC) Principles and those of the Maryland State Department of Education. The following competencies have been developed to prepare teachers and prospective teachers to:

1. describe the cognitive, social, emotional, cultural, and physical characteristics of exceptional individuals and their effect on how students learn;
2. identify and reflect upon the historical, psychological, political, legal, and philosophical factors which influence current trends and practices in special education;
3. assess, diagnose, and evaluate academic and social behaviors and programs for the students with disabilities;
4. apply systematic instructional design and methodology to teaching basic skills such as reading, language, mathematics, and social skills;
5. adapt teaching practices to meet the instructional needs of students with diverse learning styles, learning needs, and diverse cultural backgrounds;
6. demonstrate and apply systematic behavior and classroom management procedures and effective social interaction skills;
7. integrate and apply technology into the educational program;
8. work effectively with other school personnel, parents, and those involved in human services programs;

9. follow mandated procedures for referring, assessing, identifying, and providing services for students with disabilities, participating in developing appropriate individualized education plans, and observing all necessary procedural protections including notice, consent, and records access; and

10. critique and apply research in educational practice.

## **ADMISSION REQUIREMENTS**

### **REGULAR ADMISSION**

Admission to the Special Education Program is based on criteria specified in the requirements of admission to the UMES Graduate School. These standards were devised to ensure that students accepted into the Graduate School were qualified and had a reasonable chance of successfully completing a graduate degree.

Admission criteria include:

- A. Baccalaureate degree from an accredited institution;
- B. 3.0 grade point average (GPA) or better on a 4.0 scale in undergraduate work;
- C. Three letters of recommendation from individuals who can evaluate the applicant's potential for graduate studies and offer insight as to the professional dispositions of the candidate; and
- D. Maryland passing scores on the Praxis I.

### **PROVISIONAL ADMISSION**

Applicants who possess an overall GPA of between 2.75 to 2.99 may be admitted and given provisional status provided they have passing scores on the PRAXIS I. These students must maintain a 3.50 average in the first nine approved credit hours, six of which must be in Special Education graduate level core courses.

Provisional status students may be required to take undergraduate prerequisites in the areas of education and psychology to

remediate content deficiencies before being admitted to regular status. Provisional status students may also be asked to come for a personal interview before being admitted to the program.

### **POLICY ON APPLICANT REJECTION**

The University may review a number of different factors to determine whether to admit an applicant to a graduate program, including but not limited to academic achievement, personal and professional references, scores on admission examinations, writing samples, personal interviews, character and integrity, personality, and potential to perform as a graduate student and in the applicable profession. Applicants should consider licensing/registration/credential requirements of a profession in which past personal history or conviction/criminal record may restrict completion of a degree program (the professional phase) and the eligibility to practice in a profession if graduated from a program.

### **APPLICATION DEADLINES**

Application deadlines for admissions are as follows:

<b>Fall Semester</b>	-	<b>May 1</b>
<b>Spring Semester</b>	-	<b>November 1</b>
<b>Summer Sessions</b>	-	<b>April 1</b>

### **RETENTION AND EXIT REQUIREMENTS**

The course of study will vary with the experiences and qualifications that individual students bring to the program. A minimum of 30 semester hours will be required for the M.Ed. degree. Students working toward the M.Ed. degree plus certification will need to complete additional hours beyond the 30 semester hours minimum to satisfy the M.Ed. and certification requirements. Undergraduate methods courses and the internship (i.e., EDSP 400, EDSP 401, EDSP 402, EDSP 403, EDSP 416, EDSP 426, EDSP 442, EDSP 450) may not be applied to the M.Ed. degree. However, these courses will be part of the student's overall program if they are essential to meet certification requirements. No more than 12 hours of coursework at the 400

level can be applied toward the M.Ed. requirements.

All requirements for the Master's degree must be completed within a five-year period. This time limit also applies to any transfer work from other institutions to be included in the student's overall program.

To remain in good standing in the M.Ed. Special Education Program, including the eligibility to earn certification, each student must meet and maintain the following performance criteria:

- A. Earn an overall grade point average of 3.0 or higher; and
- B. Earn no more than one "C" in all courses.
- C. Earn no grade in a course lower than a "C" at any time during the program

In addition, an internship will be required for students applying for initial certification in Special Education. A professional portfolio is developed as part of the internship experience. Prior to taking the internship and seminar (i.e., EDSP 400, EDSP 442, EDSP 450), teacher candidates must take and pass the PRAXIS II, meeting the minimum cut-off scores as determined by the Maryland State Department of Education.

Students must also take and pass a written comprehensive examination within the last 6 credits of their program. In addition, they must also complete a seminar paper within the last 6 credits of their program. During the course SPED 678, the seminar paper must be approved by the seminar instructor, program coordinator, and department chair.

For additional and elaborative information on the policies, procedures and forms of the program, consult the latest [Graduate Special Education Program Handbook](#).

## **SPECIAL EDUCATION COURSES**

**(Note: All credit hours are given in parentheses.)**

**CORE COURSES: (All students in the program are required to take these courses.)**

SPED 600	Characteristics of Exceptional Individuals (3)
EDUC 610	Learning and Instructional Design (3)
EDUC 690	Introduction to Behavioral Research (3)
SPED 615	Psychoeducational Assessment (3)
EDUC 625	Applied Behavior Analysis (3)
EDSP 428	Communication Skills in Special Education (3)
EDSP 430	Technology in Special Education (3)
SPED 678	Master's Research Seminar (3)

**ELECTIVES (Some of these may be required for those seeking Certification in Special Education.)**

SPED 603	Characteristics and Programming for Individuals with Learning Disabilities (3)
SPED 605	Characteristics and Programming for Individuals with Mental Retardation (3)
SPED 607	Characteristics and Programming for Individuals with Behavioral Disorders (3)
SPED 608	Characteristics and Programming for the Gifted (3)
SPED 630	Current Legal and Advocacy Issues in Special Education (3)
SPED 638	Current Trends in Special Education (3)
SPED 640	Internship in Special Education (3-6)
SPED 650	Career Education for the Individuals with Disabilities (3)
EDSP 401	Processes and Acquisition of Reading and Language for Students with Disabilities (3)
EDSP 402	Materials for Reading and Language for Students with Disabilities (3)

EDSP 403	Instruction of Reading and Language for Students with Disabilities	(3)
EDSP 404	Assessment, Diagnosis and Remediation of Reading for Students with Disabilities	(3)
EDUC 612	Advanced Educational Psychology	(3)
EDUC 620	Advanced Human Growth and Development	(3)

In addition to elective courses within the major, students are encouraged to select electives in related areas such as Guidance and Counseling and Rehabilitation Counseling. Advisors approve electives before they are taken.

### COURSE DESCRIPTIONS

#### **SPED 600 Characteristics of Exceptional Individuals (3)**

This course presents an overview of the major types of exceptionalities and their impact on the teaching/learning process. It includes the legal mandates that relate to the field of special education. **Prerequisite: Graduate Standing**

#### **SPED603 Characteristics and Programming for Individuals with Learning Disabilities (3)**

This course presents an overview of learning disabilities. It includes the diagnosis, assessment, etiology, academic, social and behavioral characteristics as well as history, theories, current issues, instructional strategies and delivery systems. **Prerequisite: SPED 600**

#### **SPED 605 Characteristics and Programming for Individuals with Mental Retardation (3)**

This course presents an overview of mental retardation. It includes the diagnosis, assessment, etiology, academic, social and behavioral characteristics as well as history, theories, current issues, instructional strategies, and delivery systems. **Prerequisite: SPED 600**

#### **SPED 607 Characteristics and Programming for Individuals with Behavioral Disorders (3)**

This course presents an overview of behavioral disorders. It includes the diagnosis, assessment, etiology, academic, social and behavioral characteristics as well as history, theories, current issues, instructional strategies, and delivery systems. **Prerequisite: SPED 600**

#### **SPED 608 Characteristics and Programming for the Gifted (3)**

This course presents an overview of gifted and talented individuals. It includes the diagnosis, assessment, etiology, academic, social and behavioral characteristics as well as history, theories, current issues, instructional strategies, and delivery systems. **Prerequisite: SPED 600**

#### **SPED 615 Psychoeducational Assessment (3)**

This course presents the selection, administration, and interpretation of comprehensive psychoeducational batteries designed to assess intellectual, behavioral, achievement, and academic abilities. It includes design, construction, and implementation of informal procedures. **Prerequisite: SPED 600**

#### **SPED 630 Current Legal and Advocacy Issues in Special Education (3)**

This course presents an in-depth study of legal issues derived from federal and state mandates in special education. It includes the review of administrative and judicial decisions, analysis of due process proceedings, and study of current legal trends in the field. **Prerequisite: SPED 600**

#### **SPED 638 Current Trends in Special Education (3)**

This course presents an in-depth analysis of selected topics in the field of education as they relate to exceptional learners. **Prerequisite: SPED 600**



**SPED640 Internship in Special Education (3-6)**

This course involves a supervised internship in a setting appropriate to the student's background and level of certification. This course may be taken twice for up to 6 credits. **Prerequisite: SPED 600**

**SPED 650 Career Education for Individuals with Disabilities (3)**

This course presents a study of pre-vocational and vocational training and career education for individuals with disabilities. **Prerequisite: SPED 600**

**SPED 678 Master's Research Seminar (3)**

This course provides individualized instruction, direction, and guidance in the research process. A student-generated, independent, comprehensive research paper (i.e., seminar paper) and a professional portfolio are required course products. **Prerequisite: SPED 600, EDUC 690, 24 hours of graduate work**

**EDUC 610 Learning and Instructional Design (3)**

This course provides advanced skill development in the area of individualized programming, including adaptation and modification of curriculum, instructional design, program development, and evaluation. Learning theory and its application in the classroom are emphasized. **Prerequisite: SPED 600**

**EDUC 612 Advanced Educational Psychology (3)**

This course emphasizes educational implications of research on child development, cognitive science, learning and classroom instruction. **Prerequisite: Graduate Standing**

**EDUC 620 Advanced Human Growth and Development (3)**

This course provides advanced study of human growth and development using a life-span approach. Current research and theories in the areas of cognitive processes, learning abilities, social and psychological processes will be examined. **Prerequisite: Graduate Standing**

**EDUC 625 Applied Behavior Analysis (3)**

This course develops competencies associated with effective individual, group, and classroom management. Systematic analysis of behaviors and the application of behavioral theory in special education are presented. **Prerequisite: SPED 600**

**EDUC 690 Introduction to Behavioral Research (3)**

This course presents methods and techniques of behavioral research; experience in reading, analyzing, and interpreting behavioral research, as well as writing and critiquing abstracts and developing research proposals. **Prerequisite: SPED 600**

**EDSP 401 Processes and Acquisition of Reading and Language for Students with Disabilities (3)**

This course introduces students to the processes of language development and the relationship and role of language acquisition in reading development for students with disabilities at the elementary and secondary levels. It will analyze the relationship between oral language development, reading acquisition, and written language. In addition, the interactive nature of the reading process, including the impact of phonemic awareness will be addressed. **Prerequisite: SPED 600**

**EDSP 402 Materials for Reading and Language for Students with Disabilities (3)**

This course introduces materials which can be used to provide a variety of reading and language experiences to students with disabilities at the elementary and secondary levels. Both teacher-made and commercial materials will be discussed. The use of children's literature, community resources, and parental support will also be explored. **Prerequisites: SPED 600, EDSP 401**

**EDSP 403 Instruction of Reading and Language for Students with Disabilities (3)**

This course introduces the instruction of reading skills to students with and without disabilities at the elementary and secondary levels. Content

includes the development of word attack and comprehension skills and the teaching of expository reading in the content areas. Emphasis is placed on the selection, organization, and evaluation of instructional content, strategies and activities. **Prerequisites: SPED 600, EDSP 401**

**EDSP 404      Assessment, Diagnosis and Remediation of Reading for Students with Disabilities (3)**

This course provides an in-depth analysis of assessment, diagnosis, and remediation of reading problems for students with disabilities at the elementary and secondary levels. A thorough understanding of the diagnostic process is explored as well as remediation techniques for comprehension, vocabulary development, and word attack skills. Attention is given to effectively reporting these results to parents and other professionals. **Prerequisites: SPED 600, EDSP 401, EDSP 402, EDSP 403**

**EDSP 428      Communication Skills in Special Education (3)**

This course focuses on the nature of oral and written communication theories, models, and definitions; the role of the individual and groups in the communication process; and content and settings for communication. Emphasis will be on developing effective communication skills in the educational setting with a special focus on working with parents and other educators. **Prerequisite: SPED 600**

**EDSP 430      Technology in Special Education (3)**

This course explores a wide range of assistive technology applications for students with physical, cognitive, communicative, sensory, and/or multiple disabilities. Students will examine the use of technology in combination with effective instructional strategies to enhance learning. In addition, students will examine electronic and print resources for assistive technology information and review research about current practices for the implementation of instructional technology. **Prerequisite: SPED 600**

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**For further information on this program, please contact:**

Graduate Program Coordinator  
Special Education  
Department of Education  
Lida Brown Building  
University of Maryland Eastern Shore  
Princess Anne, MD 21853

## MASTER OF ARTS IN TEACHING (MAT)

UMES/SU: Collaborative Degree-Granting Program

The MAT is, as of Fall 2002, a 39 semester-hour professional degree program designed to prepare students for **initial** teacher certification. It is an alternative, collaborative degree program offered by Salisbury University (SU) and the University of Maryland Eastern Shore (UMES).

The MAT is intended for students who have earned a non-teaching baccalaureate degree from an accredited institution of higher education in an appropriate content area, who now wish to become teachers in a secondary school (grades 7-12). Students may prepare for teacher certification in the following State-approved programs at UMES: **Agriculture, Art, Biology, Business, Chemistry, English, Family & Consumer Sciences, Mathematics, Music (vocal and instrumental) and Technology. Social Studies is pending state approval.**

### PROGRAM GOAL

The overall goal of the MAT program is to prepare students to become effective educators in secondary schools and to meet the certification and professional standards of the Maryland State Department of Education.

### PROGRAM OBJECTIVES

To accomplish this goal, there are four major objectives:

1. To allow students to build upon the content knowledge they have acquired in the baccalaureate degree, adding the professional knowledge necessary for a career in teaching.
2. To prepare teachers who are well-grounded in research, theory, and practice related to effective classroom instruction and school improvements.
3. To enable teacher candidates to develop and demonstrate sensitivity and effective interpersonal skills in working with culturally diverse populations.

4. To nurture educators who are committed, continuous learners, and contributors to the enhancement of the teaching profession.

## ADMISSION REQUIREMENTS

### Regular Admission

Although students must matriculate at the campus where there is a State-approved teacher preparation program in their intended field, applicants will be admitted to the MAT program by a common UMES/SU admission process. **To be admitted to the program all applicants must:**

1. possess a baccalaureate degree in a content area;
2. meet the requirements for regular admission to the graduate school;
3. take and pass Praxis I;
4. possess an undergraduate grade-point average of a least 3.0 in the last half of the undergraduate program, or possess a prior graduate degree from an accredited institution;
5. submit official transcripts from all higher institutions attended;
6. submit three letters of recommendation that address: their personal qualities, e.g., character and academic abilities, problem solving, conceptual thinking, and the writing and speaking skills needed to support a rigorous graduate program; and that they possess the personal determination and commitment needed to complete this program;
7. participate in the individual structured interview session by the SU/UMES Admissions Committee;
8. submit a writing sample essay that is written on campus, in a supervised setting, and focuses on some current educational issues, as determined by the MAT joint Admissions Committee, and

9. complete the MAT Application Form, including a personal statement of purpose.

The transcripts and academic credentials of all applicants will be reviewed by the UMES/SU joint MAT Admissions Committee. Appropriate academic departmental subcommittees will determine whether students possess adequate and current content coursework in the intended certification area. Individuals who lack appropriate course work will be expected to complete the identified course requirements prior to their enrollment in the internship portion of the MAT program. Students holding degrees which are more than five years old, may be required to take additional courses in the major area before taking method courses, or before the internship. No additional courses will be taken during the full-time internship. Students must follow the school day and holiday schedule of the school system in which their internship occurs.

#### **Provisional Admission**

Applicants who possess an overall undergraduate GPA of between 2.7 and 2.99 may be considered for admission to the MAT program under Provisional Status. They must maintain a 3.0 or better grade point average in the first nine credit hours. A transcript review will be conducted after the first nine credit hours. Students meeting the 3.0 standard will be granted regular admission status. Those who do not meet the standard will be terminated from the program.

#### **RETENTION AND EXIT REQUIREMENTS**

The specific requirements for the MAT degree are as follows:

1. Course Work (as of Fall 2002)

A minimum of 39 semester hours of course work will be required for the MAT degree. All requirements must be completed within a five-year period after admission to the program.

2. Retention

To remain in good standing in the MAT program each UMES student must meet and maintain the following performance criteria:

- A. Earn an overall grade point average of 3.0 or higher;
- B. Earn no more than six credit hours of C or C+ grades and no grade lower than a C;
- C. Take and pass PRAXIS II prior to beginning the student internship experience;
- D. Pass the comprehensive examination as condition for advancement to candidacy;
- E. Complete a seminar paper that meets the identified standards;
- F. Complete the program within three calendar years of advancement to candidacy.

#### **ADVISEMENT SYSTEM**

Students in the MAT program have an on campus advisor throughout their course of study, who is available to serve as mentor and to advise them on academic and career plans. Students may not register for classes without discussing their program with their academic advisor and receiving the advisor's signature on the registration and drop/add forms.

#### **APPLICATION DEADLINE**

All fully completed applications must be submitted to the Graduate School no later than November 15 for Winter Session admission.

#### **TRANSFER CREDITS**

A maximum of six graduate credits may be accepted for transfer into the program, provided these credits are as specified (see transfer credits section of this catalog).

#### **COMPREHENSIVE EXAMINATION**

Students in the UMES/SU MAT program must obtain passing scores on a collaborative comprehensive examination given in the Winter Session. Students who do not pass all parts of the comprehensive examination must wait four months before retaking them. Passage of the comprehensive examination is a requirement for graduation.

### **SEMINAR PAPER**

All UMES students must write a seminar paper that demonstrates their ability to review the literature in an area of educational research. See your UMES advisor or Education Department chair for information. Seminar papers must be completed and approved by designated UMES personnel.

### **INTERNSHIP**

Completion of a school-based full-time teacher internship is required for completion of the degree.

### **Sequence of Master of Arts in Teaching Courses and other Requirements**

#### **WINTER TERM\***

EMAT 501 Development and Learning Applied to Teaching (3)  
(UMES; SU)

#### **SPRING SEMESTER**

EMAT 502 Social and Philosophical Foundation of Contemporary Education (UMES; SU) (3)  
EMAT 504 Reading in the Content Area I (UMES only) (3)  
EMAT 505 Methods of Teaching and Assessment (UMES; SU) (3)  
EMAT 506 Inclusive Teaching for Diverse Populations (UMES; SU) (3)

#### **SUMMER SESSION I**

EMAT 515 Research and Technology (UMES; SU) (3)

#### **FALL SEMESTER\*\***

EMAT 503 Principles of Curriculum and Instruction (UMES; SU)(3)  
EMAT XXX Content Area Methods (varies by content area) (3)  
(UMES; SU)  
EMAT 512 Classroom Management (3)  
(UMES; SU)  
EMAT 508 Reading in the Content Area II (UMES only) (3)

#### **WINTER TERM**

Comprehensive Exams (UMES; SU)

### **SPRING SEMESTER**

EMAT 507- Internship I (UMES; SU) (3)  
EMAT 509- Internship II (UMES; SU) (3)  
EMAT 511- Internship Seminar (at SU) (3)  
(UMES; SU)

Courses are taught on both campuses; in any semester half of the courses are taught at UMES and the others at SU.

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\*UMES students must take and pass PRAXIS I prior to being admitted to the program

\*\*UMES students must take and pass the PRAXIS II prior to beginning the internship

**Note:** The chair of the academic department that offers the program in which you plan to teach must review your transcripts and indicate what course work, if any, must be completed prior to your internship.

### **Course Descriptions**

**(Note: Credit hours for all courses are given in parentheses)**

#### **EMAT 501 Development and Learning Applied to Teaching (3)**

The course examines theory and research in human development and learning psychology with application to teaching in contemporary middle and secondary schools. Emphasis is placed on translating theory into practice by integrating field experiences, class work, student projects, assignments, and exams.

**Prerequisite: Admission to the MAT program or consent of the instructor.**

#### **EMAT 502 Social and Philosophical Foundations of Contemporary Education (3)**

The course is an analysis of social and philosophical tenets of education with an emphasis on implications for contemporary middle and secondary schools. It examines current trends, issues, research and practice. Field experience involving community, educational, and social service agencies are required. **Prerequisite: Admission to the MAT program or consent of the instructor.**

**EMAT 503 Principles of Curriculum and Instruction (3)**

Historical and current influences on curriculum developments, alignments, and classroom applications; underlying principles, philosophical, and social influences on strategic planning processes and school improvements will all be examined. Technological impacts on curriculum and instruction will be emphasized. Curriculum strands, research studies, and products will be reviewed and assessed. **Prerequisites: EMAT 502 and EMAT 515**

**EMAT 504 and 508 Reading in the Content Areas I and II (3 each)**

The courses are an analysis of reading/writing/learning processes with an emphasis on skills and strategies to facilitate student comprehension and learning of content in middle and secondary schools. The course examines research and practice; field experiences are required. **Prerequisite: Admission to the MAT program or consent of the instructor.**

**EMAT 505 Methods of Teaching and Assessment (3)**

This graduate course will focus on both effective instructional methods and educational assessment procedures. Students will examine general principles related to preparing, planning, and delivering instruction. The connection between assessment and instruction will be emphasized. Both informal and formal assessment procedures will be presented, with an opportunity for students to apply instructional and assessment techniques in a clinical field experience. **Prerequisite: Admission to MAT Program, completion of the professional education sequence, and content requirements.**

**EMAT 506 Inclusive Teaching for Diverse Populations (3)**

This research-based course is designed to provide a broad-based survey of special education and multicultural education. One focus of this course is to provide an overview of special education and a general exploration of the types of disabilities, etiology, and characteristics of persons with disabilities. The other focus of this course will be to examine various cultural and ethnic groups, their social mores, and interaction

patterns. Further study will focus on the impact diversity has on the education of the "regular" education student and the impact diversity has on students with disabilities. Current trends and instructional strategies for inclusion will be discussed. Research opportunities and field experiences are provided. This course fulfills the State's Special Education requirement for teachers. **Prerequisite: Admission to MAT Program, completion of the professional education sequence, and content requirements.**

**EMAT XXX Secondary School Methods (400 level course number will vary according to the content major.) (3)**

The course prepares prospective teachers to teach content area in middle and high schools. Students will integrate content knowledge with basic teaching methodologies of preparing objectives, effective questioning, curriculum and resource evaluations, teacher presentations, cooperative learning, demonstrations and experiments, student projects, classroom management, lesson and unit planning. Students will be placed with a high school or middle school teacher for observations and bit teaching experiences. **Prerequisites: Successful completion of EMAT 502, EMAT 503 and EMAT 512 courses. (This is a sample of the course to be offered. A specialized content area methods course will be offered in each area for which one or both institutions [UMES, SU] have a State-approved program.)**

**EMAT 507, 509 (Internship I and II) and EMAT 511 (Seminar) (9)**

Full-time fourteen weeks clinical internship and concurrent campus seminar provide the intern with opportunities to actualize the latest educational research and theory into practice. These opportunities include and are not exclusive to: observation, mini-teaching, macro-teaching, whole group lessons and action research. The seminar provides a forum for discussing problems encountered during the internship, and also provides a colloquium for developing strategies to resolve these problems. The internship will be conducted under the direct supervision of a clinical supervisor (experienced public school teacher) with guidance and support from the University supervisor. **Prerequisites: Completion of all coursework in the MAT**

**sequence prior to the Internship, including content methods, and achievement of a passing score on the PRAXIS.**

**EMAT 512 Classroom Management (3)**

The course provides the student with a repertoire of strategies to create a classroom environment that facilitates optimal learning. Different classroom management theories will be explored and evaluated for appropriateness in a given situation. Special attention is given to accommodating diversity, and strategies for effectively communicating with families are considered. **Prerequisites: Admission to MAT program, completion of the professional education sequence, and content requirements.**

**EMAT 515 Research and Technology (3)**

Students are introduced to the three basic forms of research: historical, descriptive, and experimental, with an emphasis on incorporating them into classroom teaching. ERIC and other databases will be used in library research. The course provides a technological base for the development of videotapes, portfolios, and a research methodology base for subsequent courses. Qualitative and quantitative data treatments will be developed within the context of individual student projects and the evaluation of the research literature. **Prerequisite: Admission to the MAT program**

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**For further information on this program, please contact:**

Graduate Program Coordinator  
Master of Arts in Teaching Program  
Department of Education  
Lida Brown Building  
University of Maryland Eastern Shore  
Princess Anne, MD 21853

## **ORGANIZATIONAL LEADERSHIP**

### **Introduction**

The success of academic organizations, governmental agencies, and health and human services organizations is dependent on the availability of persons well qualified to provide effective leadership. Consequently, The University of Maryland Eastern Shore (UMES) offers a graduate program leading to the degree of Doctor of Philosophy (Ph.D.) in Organizational Leadership. The doctoral program in Organizational Leadership focuses on the professional development of persons to lead all operations in specific organizational settings. Students who satisfactorily complete the Organizational Leadership course of study will receive the Doctor of Philosophy degree and be prepared to:

- Plan, guide, direct and evaluate policy, program, and personnel development in academic, governmental, and health and human services' organizations;
- Serve as leaders who possess knowledge and skills needed to facilitate the organizational change required to develop, maintain, and increase organizational effectiveness;
- Employ ethical standards in all leadership processes;
- Select and use information management systems, including statistical packages and technologies that support and enhance organizational structures and reform initiatives.

### **Mission**

The mission of the Organizational Leadership Program is the professional development of persons toward mastery of the knowledge, skills, and dispositions supportive of exemplary leadership in specific settings: academic organizations, governmental agencies, and health and human services' organizations. The Organizational Leadership Program accomplishes this mission through advanced learning of the concepts relative to effective leadership in these specific settings. Additionally, the Organizational Leadership

Program contributes to the growing body of knowledge pertaining to effective leadership in specific settings through scholarly inquiry, and serves the academic, governmental, and health and human services' organizations throughout the Delmarva Peninsula Region through high quality engagement.

### **Admission**

Applicants will be considered for admission to the Organizational Leadership Program in accordance with the admission requirements set forth by the UMES Graduate School. Applicants must specify on the Statement of Purpose application form the Strand Area (Academic Organizations, Governmental Agencies, or Health and Human Services) for consideration. Applications will be reviewed and recommendations concerning admission made to the Dean of Graduate Studies by the Organizational Leadership Admissions Committee composed of four assessors, including one from each of the three content strands and a student representative from the preceding cohort identified by the Dean of the School of Arts and Professions.

All applicants must satisfy:

- all general requirements for full admission to graduate programs;
- an on-site interview that assesses oral/written presentation skills;
- a written evaluation of work performance by a current or recent supervisor (one of the required letters of recommendation).

Since the program is a cohort design, admissions will also be based, to the extent possible, on a sufficient number of admissions in each of the three strand areas of the program, so as to maintain a continuity of strand course offerings.

The Organizational Leadership Program is a terminal degree program for students in mid to advanced career stages. Applicants represent a wide variety of professional experiences and educational backgrounds.



Students who enter the program must have earned baccalaureate and master's degrees from U.S. regionally accredited educational institutions or the degree equivalent in another country and demonstrate successful employment in an organization that relates to the specified strand major. Applicants, particularly those demonstrating nontraditional career paths, must clearly articulate on the Statement of Purpose application form the purposes for pursuit of the degree consistent with previous educational background and professional experiences and well-considered career plans.

### **Application Deadline**

As a cohort-based program, there is one admission period per year (Fall). The application deadline for the Fall semester is May 1 the preceding spring. Students are responsible to ensure that completed applications and supporting materials, including letters of recommendation and official transcripts, are received in the UMES Graduate School by the application deadline.

### **Program, Retention, and Exit Requirements**

All students in the Organizational Leadership program must complete core courses (30 semester hours) and courses in one of the three strand areas: Academic Organizations, Governmental Agencies, or Health and Human Service Organizations. A strand is 12 semester hours of content-specific course work. Included in the Ph.D. course of study for all Organizational Leadership students, regardless of the elected strand, will be a supervised internship (6 semester hours) in an organization that aligns with the elected strand. Advancement to candidacy for the degree occurs after the passing of the comprehensive examination, successful completion of the required internship activities, and the successful defense of the dissertation proposal. Twelve (12) semester hours of credit are awarded for the satisfactory completion of the dissertation. The sixty (60) credit hours required for the degree can be earned within a three-year cohort sequence. Any applicable transfer credit for core or strand course requirements, up to 12

semester hours, must comply with the transfer of credit provisions of the UMES Graduate School and be approved by the academic advisor, the Coordinator of the Organizational Leadership Program, and the Graduate Dean during the first semester of matriculation.

Students enter the Organizational Leadership Program as members of a doctoral cohort. Since this program is designed to meet the needs of students who are employed full time, courses will be offered in a nontraditional scheduling format on Friday evening, Saturdays and Sundays. Classes are five weeks in duration, and generally meet twice. The remaining three (3) weeks are devoted to individual projects and research. Students must pursue coursework with the cohort. Students who become out of sequence with the cohort may join the next cohort as space permits. The cohort will complete twenty-seven (27) semester hours of the core courses during the first year of enrollment in the program: three (3) courses in each of the fall, spring, and summer semesters (9 credit hours per semester). In the second year, the remaining core course and four (4) strand courses will be completed. The remaining requirements are scheduled for completion in the third year of the program. Additional time to complete the program may be necessary in accordance with the policies and procedures of the UMES Graduate School. All students must maintain a "B" or better grade in all program courses with a letter grading system (A-F) and a grade of "S" in research credit courses with a "S/F" grading system.

The program specifics for the Doctor of Philosophy degree in Organizational Leadership are as follows:

1. Learning
  - a. Core Course Requirements (30 semester hours)  
Organizational Leadership as a Field of Inquiry
    - History and Philosophy of Organizations
    - Theories and Processes of Organizations
    - Politics, Organizations, and Leaders: Legal and Ethical Issues

- National and International Organizational Research and Development
  - Research and Statistics
    - Qualitative Research
    - Quantitative research
    - Statistical Applications and Interpretations
    - Statistics and Information Management
  - Professional Services
    - Personnel Development, Management and Evaluation
    - Public Relations and Marketing in the Non-Profit Sector
- b. Strand Course Requirements (12 semester hours)
- Academic Organizations
    - Advanced Learning Theory
    - The Adult Learner
    - Academic Leadership
    - Fundraising, Lobbying and Negotiating Skills
  - Government Agencies
    - Managing Public Financial Resources
    - Policy Development and Leadership
    - Policy Analysis Seminar
    - Public Leadership Seminar
  - Health and Human Services
    - Organizational Behavior in Health and Human Services
    - Comparative Health and Human Services Policy
    - Budgeting for Health and Human Services Organizations
    - Policy Analysis for Health and Human Services Organizations
2. Engagement: Doctoral Internship (6 semester hours)
3. Inquiry: Dissertation Research (12 semester hours)

### **Advisors, Research Advisory Committee, Dissertation Examination Committee**

Upon admission to the Organizational Leadership Program, students will be assigned to an academic advisor. This person will be responsible for advising on all aspects of the student's progress through the program.

Early research mentoring is a strength of the Organizational Leadership Program. Research Advisory Committees of five (5) graduate faculty members will be assigned during the second semester of the program, or no later than the start of the second year of study, and will remain with the student throughout the program, including dissertation supervision. Students are encouraged to identify as one member of the Research Advisory Committee a leading professional in the identified strand field from outside the University. This professional leader (usually the supervisor of the internship), may be a supervisor or mentor, must hold a terminal degree, must achieve Special graduate faculty status on the UMES Graduate Faculty and will be referred to as the cognate member of the Research Advisory Committee. Research Advisory Committee members are nominated by the student's advisor (who usually chairs the committee), after the student's input, and the Coordinator of the Organizational Leadership Program, and appointed by the Dean of Graduate Studies.

The Research Advisory Committee will administer the comprehensive examinations and approve proposals and products for doctoral internships and evaluate the resulting scholarly products in accordance with the policies and procedures of the UMES Graduate School. The Research Advisory Committee is responsible for initial approval of the student's inquiry (dissertation) topic. Students in the Organizational Leadership program are encouraged to establish interests in the scholarly inquiry early in the program. Students develop an area of scholarly inquiry and discuss it with the Research Advisory Committee. Students are expected to pursue the chosen inquiry topic throughout the degree program, thus providing direction in learning through coursework, engagement through the doctoral internship, and inquiry through dissertation research. Organizational Leadership students will develop

a comprehensive research proposal which must be defended as a requirement for advancement to candidacy for the degree. All members of the Research Advisory Committee must be present for the oral portion of the comprehensive examination, the internship proposal and presentation, and the defense of the dissertation proposal.

The Dissertation Examination Committee is usually comprised of the members of the Research Advisory Committee. A graduate faculty member (usually the advisor) from the content strand must chair the research committee. The Dean of Graduate Studies will identify the Dean's representative on the committee. The Dissertation Examination Committee will conduct the dissertation public seminar and defense of the dissertation research in accordance with the policies and procedures of the UMES Graduate School.

Members of the Dissertation Examination Committee are nominated by the advisor through the Coordinator of the Organizational Leadership Program and approved by the Dean of Graduate Studies. All members of the Dissertation Examination Committee must be present for the dissertation public seminar and the final dissertation defense examination. The interactive video network system may be used, but all committee members, the student, and the Dean of Graduate Studies must agree to this use. Phone/conference calls are not acceptable alternatives. Under rare circumstances including medical emergency, members of the UMES Graduate Faculty may substitute for committee members with written approval of the unavailable committee member, the Coordinator of the Organizational Leadership Program, and the Dean of Graduate Studies.

### ***Examinations***

Advancement to candidacy in the Organizational Leadership Program requires successful completion of the comprehensive examination, presentation of products of the doctoral internship, and defense of the dissertation research proposal. The comprehensive examination must be successfully completed before the student can defend the dissertation proposal. The

comprehensive examination and internship activities are not sequential.

### ***Comprehensive Examination***

To be eligible to apply for the comprehensive examination, any incomplete grades and repeat grade courses must be satisfied, and the student has earned a 3.0 or better cumulative GPA.

The Research Advisory Committee is responsible for administering the comprehensive examination which students should take at the completion of thirty (30) semester hours of core coursework and 12 semester hours of strand coursework. This examination, intended to assess scholastic and intellectual capacity in the core and strand academic areas, focuses on the student's ability to integrate knowledge from both areas. The comprehensive examination includes both written and oral components and is conducted and evaluated in accordance with the policies and procedures of the UMES Graduate School. It is in the student's best interest to complete the comprehensive examination as early as possible after completion of the core and strand course requirements. Areas of the examination will be chosen by the Research Advisory Committee from a general list formulated by the Coordinator of the Organizational Leadership Program and must include at least one question from the strand area of the student and at least one question from each of the core blocks: Organizational Leadership as a Field of Inquiry, Research and Statistics, and Professional Services.

The examination will include a written component followed by oral questioning by the Research Advisory Committee. Students must provide the chair of their Research Advisory Committee with notice of intent to write the comprehensive examination. The chair of the Research Advisory committee will schedule the written portion of the comprehensive examination no sooner than 10 working days and no later than 20 working days upon receipt of the written notice of intent. The written portion of the comprehensive examination must be completed on the UMES campus within an 8 hour period. The chair of the Research Advisory Committee will schedule the oral portion of the comprehensive examination on the UMES

campus within 10 working days after the written portion has been completed and evaluated. The oral examination usually provides students with opportunities to expand and clarify their written responses, but Research Advisory Committee members may present the student with additional questions. At the conclusion of the oral component, the Research Advisory Committee will provide the student, the Coordinator of the Organizational Leadership Program, and the Dean of Graduate Studies with written notice of the written/oral comprehensive examination results. The Research Advisory Committee may either pass the student (a minimum of four affirmative votes is required) or the student fails. If failed, the comprehensive examination may, at the recommendation of the Research Advisory Committee, be retaken in its entirety within one year but no sooner than 40 working days after the initial written portion of the examination. The student's failure to retake the examination within one year or the second failure of the comprehensive examination results in cancellation of matriculation and dismissal from the program.

### **Doctoral Internship**

The Research Advisory Committee is responsible for approval in advance of the doctoral internship before the student begins the internship. Students are responsible to provide each member of the Research Advisory Committee with clear articulation of the internship setting, supervisor, goals and objectives, activities, duration, and intended outcomes and products at least 10 working days before the approval meeting. Students are expected to document at least 90 contact hours in the internship. During the meeting, the student makes a brief presentation of the internship followed by questions from the Research Advisory Committee. At the conclusion of the meeting, the Research Advisory Committee may approve, approve with revisions, or disapprove the internship proposal. The Research Advisory Committee will provide written notification of this outcome to the student, the Coordinator of the Organizational Leadership Program, and the Dean of Graduate Studies. Students with a disapproved internship proposal must present a satisfactory internship

proposal within twenty (20) working days of the disapproval.

At the conclusion of the internship, students provide the Research Advisory Committee with the outcomes and products of the internship at least 10 days in advance of the internship defense. The internship defense consists of a brief presentation of the activities and products followed by questions from the Research Advisory Committee. At the conclusion of the internship defense, the Research Advisory Committee will approve, approve with revisions, or disapprove the internship products. The Research Advisory Committee will provide written notification of the outcome of the internship examination defense to the student, the Coordinator of the Organizational Leadership Program, and the Dean of Graduate Studies. If failed, the internship presentation may, at the recommendation of the Research Advisory Committee, be retaken within 20 working days but no sooner than 10 working days. The second failure of the internship presentation or failure to meet the established re-examination timeline for presentation, results in cancellation of matriculation and dismissal from the program. As a general rule, students must successfully complete the internship defense before becoming eligible to defend the dissertation research proposal. But as research activities may be inextricably linked to the internship, students may engage in these activities (internship and dissertation research proposal defense) simultaneously with advance approval from the Research Advisory Committee, the Coordinator of the Organizational Leadership Program and the Dean of Graduate Studies.

### **Defense of the Dissertation Proposal**

The Dissertation Proposal Defense is an oral examination on the research proposal administered by the Research Advisory Committee. At least ten (10) working days prior to the examination, the student must provide all committee members with a formal research proposal which details: background information, research progress to date, specific objectives, timelines, and experimental design. The Research Advisory Committee examines the student on all aspects of the proposed research.

The Research Advisory Committee is expected to determine the soundness of the research plan and whether the student has the proper motivation, technical and intellectual capacity, and resources to complete the research in partial fulfillment of the requirements of the Doctor of Philosophy degree. The student passes with at least four affirmative votes; otherwise the student fails and must re-defend the research proposal. A second failure or failure to re-defend within one year (but no sooner than 20 working days) of the first proposal defense results in cancellation of matriculation and dismissal from the program. Written notice of the outcome of the dissertation research proposal defense will be provided to the student, the Coordinator of the Organizational Leadership Program, and the Dean of Graduate Studies.

Students in the Organizational Leadership Program ascend to degree candidacy status upon successful completion of the comprehensive examination, the internship presentation, and the dissertation proposal defense.

### **Dissertation Seminar and Defense of the Dissertation Research**

A candidate for the Doctor of Philosophy degree will present a public seminar on the dissertation research during the semester in which the degree will be awarded and at least 20 working days in advance of the day of the oral final examination. The student and the Advisor/Research Advisory Committee Chair will be responsible for initiating arrangements through the Coordinator of the Organizational Leadership Program for the date and advertisement of the seminar. The public seminar is a public meeting open to faculty, students, and other interested parties. The purpose of the public seminar is intended to provide the student with additional critical insight prior to the final oral defense.

The final oral defense of the dissertation is conducted by the Dissertation Examination Committee nominated by the student's advisor through the Coordinator of the Organizational Leadership Program (by the third week of the semester in which the student expects to complete all requirements, but no later than two months prior to the examination) and appointed

by the Dean of Graduate Studies. This is usually the Research Advisory Committee plus a representative of the Dean of Graduate Studies in accordance with policies and procedures of the UMES Graduate School.

The chair of the Dissertation Examination Committee establishes the time and place of the final examination. The student is responsible for providing a complete and final draft of the dissertation to each member of the committee at least 10 working days before the examination date. Announcement of the final examination will be made through the Office of the Coordinator of the Organizational Leadership Program at least two weeks prior to the examination. All final oral examinations are open to all members of the graduate faculty and students, although only members of the examining committee may question the candidate in the closed session. After the examination, the committee deliberates and votes in private. The Dissertation Examination Committee will provide the student, the Coordinator of the Organizational Leadership Program, and the Dean of Graduate Studies with written notice of the final examination results. The committee may pass the student with recommendations for modifications to the dissertation, pass the student and approve the dissertation, or disapprove the dissertation and fail the student (two or more negative votes constitute failure). At the discretion of the Dissertation Examination Committee, it may elect to re-examine failing students. Students may be examined no more than twice. Second failure of the final examination by the student results in cancellation of matriculation and dismissal from the Program. Further details and specifics are found in the UMES Graduate School's Established Procedures for Conduct of the Doctoral Dissertation Defense.

Following successful completion of the final oral examination, and the Graduate School's review of the dissertation format for binding, a final copy of the dissertation must be supplied to each member of the Dissertation Examination Committee and the Coordinator of the Organizational Leadership Program in addition to those required by the UMES Graduate School.

### *Altered Timelines for the Program*

Completion of the requirements for the Doctor of Philosophy degree in the Organizational Leadership Program within the recommended three-year time frame is contingent on successful completion of all coursework in sequential order and the required examinations. Unsatisfactory performance on the coursework, the comprehensive examination, the internship proposal, the internship products' presentation examination, the research proposal defense or the final dissertation examination and subsequent re-examinations of any of the above necessarily extend the duration of the student's retention and graduation in the program. Consequently, students in the Organizational Leadership Program may need to commit additional time and resources beyond the recommended three-year time frame and sequence in accordance with the policies and procedures and timelines for doctoral degrees of the UMES Graduate School.

### **COURSE DESCRIPTIONS** (Credit hours are in parentheses)

#### **Core Requirements:**

#### **ORGANIZATIONAL LEADERSHIP AS A FIELD OF INQUIRY**

##### **ORLD 601 History and Philosophy of Organizations (3)**

The course traces the development, rationale, and purpose for organizations. Information obtained will serve as the foundational building block for understanding and obtaining an essential perspective of current organizational interactions.

##### **ORLD 602 Theories and Processes of Organizations (3)**

The course examines theories, methods, and practices that influence organizations. Emphasis is placed on organizational performance outcomes and how implementation impacts emerging global markets. Also explored will be the human, conceptual, and technical skills required of all policymakers working collaboratively within organizations to achieve individual, organizational, and societal goals.

##### **ORLD 603 Politics, Organizations, and Leaders: Legal and Ethical Issues (3)**

The impact of ethics as well as the responsible behavior of leaders in organizations are studied. Policies, practices, and their legal implications; resource identification and the need for human services, along with the impact of technology on human rights, will all be explored.

##### **ORLD 604 National and International Organizational Research and Development (3)**

This course will provide the student with a study of American organizational structures, along with a comparison of emerging influential cultures which impact international markets, and global performance.

#### **RESEARCH AND STATISTICS**

##### **ORLD 610 Qualitative Research (3)**

The course is an introduction to the field of qualitative research through the development of knowledge base and application of research skills and methodologies needed to select, read, and interpret relevant professional literature. Research reports are emphasized.

##### **ORLD 611 Quantitative Research (3)**

This course is introduction to the field of quantitative research through the development of knowledge base and application of research skills and methodologies needed to select, read, and interpret relevant professional literature. Research reports are emphasized.

##### **ORLD 612 Statistical Applications and Interpretations (3)**

The course covers fundamentals of research and case study design, focusing on implementation strategies that address organizational policies and practice. There is also a study in paradigm shifts and analysis of literature in the field of study. Cultural and technological influences, how public, private and corporate systems are altered by interpretative data, are also covered.

##### **ORLD 613 Statistics and Information Management (3)**

The course covers the study and use of statistics in a diverse, global society and the effective use

of derived information to provide for orderly transitions in institutional governance.

## **PROFESSIONAL SERVICES**

### **ORLD 617 Personnel Development, Management, and Evaluation (3)**

The course covers leadership strategies required in recruitment, development, and in-service, effective use of personnel staff, and the evaluation techniques which will promote a highly motivated professional delivery system.

### **ORLD 618 Public Relations and Marketing in the Non-Profit Sector (3)**

Topics include interdisciplinary approaches to achieving harmony in making systems and organizations apparently seamless, publicly attractive, economically sound, and professionally ethical.

## **STRAND REQUIREMENTS:**

### **ACADEMIC ORGANIZATIONS**

#### **ACOL 621 Advanced Learning Theory (3)**

The course is a pedagogical search that will examine learning across the lifespan with an emphasis on working with the unique cultural aspects of diverse students in an academic setting. Barriers to effective learning will be explored and solutions will be offered.

#### **ACOL 622 The Adult Learner (3)**

This course of study will examine the cognitive, personality and social development of the adult. Learning styles, career development, motivation, application of learning theories to this population, multicultural education, assessment, lifelong learning programs, and other relevant psycho-instructional issues will be addressed.

#### **ACOL 623 Academic Leadership (3)**

Topics include a history of academic leadership, leadership styles, group dynamics, supervisory models and approaches. Organizational decision processes within academic settings and multicultural perspectives will be emphasized.

Attention will be given to accountability, administration, finance, law, human resources, logistics, operations and management, marketing, strategic planning and public policy.

#### **ACOL 624 Fundraising, Lobbying, and Negotiating Skills (3)**

Grant writing, development of political networks, advocacy strategies, practices for raising and allocating resources, elements of mediation and negotiation, and techniques for empowerment and caucusing are to be reviewed. A study of North American economics will be the foci of this course.

## **GOVERNMENT AGENCIES**

#### **GVOL 621 Managing Public Financial Resources (3)**

The role of leadership in fiscal policy development and management will be addressed. Public budgeting and related financial management processes at the international, national, state and local levels will be explored. Specific focus will vary according to the needs and interests of students. Finance, markets, and investments will be baseline program components.

#### **GVOL 622 Policy Development and Leadership (3)**

Policy analysis and development, interaction of public policy and administrative agencies within international, national, state and local governments will be demonstrated. Topics include historical, legal, administrative, public bureaucracy and related issues. Strategic planning will be presented and theoretical perspectives of change will be researched.

#### **GVOL 623 Policy Analysis Seminar (3)**

Topics will explore how formal governance structures and institutional processes influence and constrain policy choices and leadership decisions. Attention will be given to business, government and education interaction. Strategic management processes will be analyzed, as well as methods of determining organizational effectiveness.

**GVOL 624 Public Leadership Seminar (3)**

Topics related to leadership in government agencies and the public sector will be reviewed and studied. Emphasis will be on current trends and contemporary issues. The need for managed change and the impact on those who sponsor need, financing and service delivery will be evaluated.

**HEALTH AND HUMAN SERVICE ORGANIZATIONS**

**HSOL 621 Organizational Behavior in Health and Human Services (3)**

The course is designed for students preparing to assume the role and duties of a leader, supervisor, or governing board member of a health or human services organization. This course will review theory and investigate specific methods of behaviors of health care and human services organization leaders.

**HSOL 622 Comparative Health and Human Services Policy (3)**

The course is a comparative analysis of different types of health and human service systems in the United States and other nations, examining differences in financing, cost, utilization, staffing, services provided, and relations with other social institutions.

**HSOL 623 Budgeting for Health and Human Services Organizations (3)**

The course is designed to provide a working knowledge of theory and analytical techniques of financial decision making in a medical or human service setting. Emphasized are methods of medical reimbursement, cost behavior and analysis, price setting and rate analysis, expense and capital budgeting, capital financing, and strategic financial planning. Implications of health and welfare reform are explored. Particular emphasis will be placed on Medicare, Medicaid, and third party payers.

**HSOL 624 Policy Analysis for Health and Human Services Organizations (3)**

The course is an overview of the basic principles and elements of policy analysis. The course focuses on the activities and elements of policy analysts in health and human services settings. The relationship between policy analysis and policy-making along with emerging professional and ethical issues will be addressed.

**DOCTORAL INTERNSHIP**

**ACOL, GVOL, HSOL 898 (1-6)**

The doctoral internship is an experiential-based learning opportunity completed as a field experience related to current or future professional interests. Activities must be performed on site in concert with fellow professionals. Insight through engagement of academic organizations, governmental agencies, and/or health and human services agencies must be available. New learning is an essential component of this experience that will yield a scholarly product that has been supervised by an expert in the field and approved by the student's research advisory committee.

**DOCTORAL DISSERTATION**

**ACOL, GVOL, HSOL 899 (1-12)**

The doctoral dissertation in the Organizational Leadership Program is a self-directed, analytical, and comprehensive product of scholarly inquiry which will stand as a model within the field of professional literature. This project, demonstrating excellence, will be the center piece of the three (3) year academic experience that will add to the body of knowledge relative to leadership in specific settings and contribute to the human endeavor. The dissertation will be conducted in accordance with the policies and procedures of the UMES Graduate School.

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**For further information on this program, please contact:**

Graduate Program Coordinator  
Organizational Leadership  
University of Maryland Eastern Shore  
Princess Anne, MD 21853



## **EDUCATION LEADERSHIP**

### **Introduction**

As the doctoral degree-granting institution on Maryland's Eastern Shore, UMES has been invited to join the Maryland Education Leadership Collaborative (MELC), working with the University of Maryland College Park (UM), Bowie State University (BSU) and Morgan State University (MSU). This doctoral program is designed to respond to the educational needs of school personnel across the state, with particular emphasis on those residing and/or working on the Eastern Shore (and in Western Maryland). The unique and complementary roles of the UM flagship mission coupled with the MSU urban doctoral mission and the regional doctoral focus of both BSU and UMES offer great promise for the addition of UMES in the collaborative partnership. With the participation of the other regional comprehensive universities, the MELC can respond to the regional need for education leadership in a timely manner. The MELC has as its vision developing a Doctorate of Education whose aim is to produce ethical and humane leaders for Maryland and the nation's schools who are:

- Sensitive to the diverse needs and diverse peoples who attend our schools and who will seek to provide an equal and quality education for all children;
- Instructional leaders able to build an effective team-oriented approach to teaching and learning in order to maximize the academic achievements of all students;
- Scholar practitioners with reflective, problem solving habits who are able to design, consume, critique and implement research relevant to effective practice; and
- Adaptable to changing environments and problems, to solving new problems, and developing adaptive learning environments.

In Maryland, the need for education leaders with training at the doctoral level has been cited as a statewide need. Personnel needs in this area parallel the projected shortage of teachers, both being impacted by the growing school-aged

population and projected retirements. Over the next five years, nearly 75% of Maryland's current school administrators will become eligible for retirement.

### **Mission**

The Institutional Identity section of the current Mission Statement for the University of Maryland Eastern Shore (UMES), an historically Black Land-grant university, indicates that UMES is a teaching, research, and extension doctoral institution that nurtures and prepares leaders, particularly from among ethnic minorities. As Maryland's 1890 land-grant institution, the three-tiered foci of teaching, research, and extension align with UMES' legacy and mission. A doctorate in Education Leadership would support the three foci as it would prepare leaders for today's schools who are particularly effective teachers, leaders and applied researchers. In addition, the collaborative program (MELC) would be delivered at various sites throughout the state, with UMES' participation at the Eastern Shore Higher Education Center, thus supporting our mission to provide extension to our constituents. Access to and the availability of this doctoral degree program on the Eastern Shore will meet the expressed needs of local citizens who want to work toward terminal degrees. The MELC program addresses the professional knowledge and skills needed to become an effective leader in selected educational settings. Consistent with the evolved land-grant university's purposes, this doctoral degree meets the needs of Delmarva residents in acquiring necessary skills required for job advancement and regional economic development.

### **Objectives**

Students who satisfactorily complete the Doctor in Education Leadership Program will receive the Doctor of Education (Ed.D.) degree and be prepared to fulfill the following objectives:

- Respond to the diverse needs and diverse peoples who attend our schools and who will seek to provide an equal and quality education for all children;

- Develop leadership skills which are demonstrated in building effective team-oriented approaches to teaching and learning in order to maximize the academic achievements of all students;
- Demonstrate scholarly behaviors such as reflection and problem solving with skills for designing, critiquing and implementing research relevant to effective practice;
- Adapt to changing environments and problems, solve new problems, and develop adaptive learning organizations; and
- Demonstrate ethical standards in all leadership processes.

### **Admission**

Applicants will be considered for admission to the Education Leadership (EDLD) Program in accordance with the general admission requirements set forth by the UMES Graduate School. Applicants must specify on the Statement of Purpose application form the Specialization Area (Guidance and Counseling, Special Education, or Career and Technology Education) for consideration. Applications will be reviewed and recommendations concerning admission made to the Dean of Graduate Studies by the Education Leadership Admissions Committee composed of four assessors, including one from each of the three specialization areas and a student representative from the preceding cohort identified by the Dean of the School of Arts and Professions.

All applicants must satisfy:

- all general requirements for full admission to graduate programs;
- an on-site interview that assesses oral/written presentation skills;
- a written evaluation of work performance by a current or recent supervisor (one of the required letters of recommendation).

Since the program is a cohort design, admissions will also be based, to the extent possible, on a sufficient number of admissions in each of the three areas of specialization (AOS) in the program so as to maintain a continuity of AOS course offerings.

The Education Leadership Program represents a terminal degree program for students in mid- or advanced career stages. Applicants represent a wide variety of professional experiences and educational backgrounds. Consequently, students who enter the program must have earned a baccalaureate and a master's degree from U.S. regionally accredited educational institutions or the degree equivalent in another country, and show successful employment in educational organizations. Applicants, particularly those demonstrating nontraditional career paths, must clearly articulate on the Statement of Purpose application form the purposes for pursuit of the degree consistent with previous educational background and professional experiences and well-considered career plans.

### **Application Deadline**

As a cohort-based program, there is one admission period per year (Fall). The application deadline for the Fall semester 2003 is July 18, 2003; subsequently it will be May 1 the preceding spring. Students are responsible to ensure that completed applications and supporting materials, including letters of recommendation and official transcripts, are received in the UMES Graduate School by the application deadline.

### **Program, Retention, and Exit Requirements**

All students in the Education Leadership (EDLD) program must complete a non-credit one weekend orientation seminar, core courses (24 semester hours), courses in one (1) of three (3) specialization areas (Career and Technology Education, Guidance and Counseling, or Special Education) and three research methods courses.

A specialization area (AOS) is 12 semester hours of content-specific course work. Included in the Ed.D. course of study for all EDLD students, regardless of their selected area of specialization, will be a supervised integrated internship (3 semester hours) in an educational setting that aligns with their area of specialization.

Advancement to candidacy for the degree occurs after the passing of the

comprehensive examination, successful completion of the required internship activities, and the successful defense of the dissertation proposal. Twelve (12) semester hours of credit are awarded for the satisfactory completion of the exit experience (dissertation). The sixty (60) credit hours required for the degree can be earned within a three-year cohort sequence. Any applicable transfer credit for core, specialization or research methods course requirements, up to 12 semester hours, must comply with the transfer of credit provisions of the UMES Graduate School and be approved by the academic advisor, the Coordinator of the Education Leadership Program, and the Graduate Dean during the first semester of matriculation.

The program will include the following elements:

- An entry level (orientation) set of experiences to outline roles, responsibility, timeline expectations, and to build a sense of cohesiveness for the group.
- A set of core courses to include topics such as organizational behavior, politics and governance, policy and planning, instructional issues, technology, personnel and financial management.
- A set of courses designed for development of additional research and data analysis skills.
- A supervised internship experience based on the student's background and career objectives
- The creation of an exit experience that highlights, through public presentation of research or special projects, the accomplishments of the student.

Students enter the Education Leadership Program as members of a doctoral cohort. Since this program is designed to meet the needs of students who are employed full time, courses will be offered in a nontraditional scheduling format on Friday evening, Saturdays and Sundays. Classes are five weeks in duration, and generally meet twice. The remaining three (3) weeks are devoted to individual projects and research. Students must pursue coursework with the cohort. Students who become out of sequence with the cohort may join the next

cohort as space permits. The cohort will complete twenty-seven (27) semester hours toward core and AOS courses during the first year of enrollment in the program: three (3) courses in each of the fall, spring, and summer semesters (9 credit hours per semester). In the second year, the remaining AOS courses and the research methods courses will be completed. All requirements are scheduled for completion by the third year of the program. Additional time to complete the program may be necessary in accordance with the policies and procedures of the UMES Graduate School. All students must maintain a "B" or better grade in all program courses with a letter grading system (A-F) and a grade of "S" in research credit courses with a "S/F" grading system.

The program specifics for the Doctor of Education degree in Education Leadership are as follows:

#### **A. Core Domains of Leadership (24 semester hours)**

ORLD 602 Theories and Processes of Organizations  
 ACOL 623 Academic Leadership  
 EDLD 610 Educational Policy and Planning  
 ACOL 624 Fundraising, Lobbying, and Negotiating Skills  
 ORLD 617 Personnel Development, Management, and Evaluation  
 ORLD 603 Politics, Organizations, and Leaders: Legal and Ethical Issues  
 EDLD 612 Leadership in Curriculum, Instruction and Technology  
 GVOL 621 Managing Public Financial Resources

#### **B. Specialization in Leadership (Students select one area of specialization) (12 semester hours)**

- Guidance and Counseling
- EDGC 642 Advanced Group Processes
  - EDGC 644 Advanced Clinical Applications and Supervision
  - EDGC 646 Organization and Administration of Guidance Programs
  - EDGC 656 Seminar on Diversity

#### Career and Technology

- CTED 600 Career and Technology Content, Methods and Strategies
- CTED 602 Career and Technology Instructional Organization and Management
- CTED 615 Administration and Leadership
- CTED 630 Special Problems in Career and Technology Education

#### Special Education

- SPED 630 Legal and Advocacy Issues in Special Education
- SPED 638 Current Trends in Special Education
- SPED 631 Interagency Collaboration in Special Education
- SPED 655 Seminar in Special Education: Administration and Supervision

#### **C. Research Methods (9 semester hours)**

- ORLD 611 Quantitative Research
- ORLD 612 Statistical Applications and Interpretations
- ORLD 613 Statistics and Information Management

#### **D. Integrated Internship (3 semester hours)**

- EDLD 898 Doctoral Internship

#### **E. Exit Experience (12 semester hours)**

- EDLD 899 Doctoral Dissertation

**Total Credits consist of 60 semester hours: (Core, Specialization and Research Coursework, the Internship, and the Dissertation)**

#### **Advisors, Research Advisory Committee, Dissertation Examination Committee**

Upon admission to the Education Leadership Program, students will be assigned to an academic advisor. This person will be responsible for advising on all aspects of the student's progress through the program.

Early research mentoring is a strength of the Education Leadership Program. Research

Advisory Committees of five (5) graduate faculty members will be assigned during the second semester of the program, or no later than the start of the second year of study, and will remain with the student throughout the program, including dissertation supervision. Students are encouraged to identify as one member of the Research Advisory Committee a leading professional in the identified area of specialization from outside the University. This professional leader (usually the supervisor of the internship), may be a supervisor or mentor, must hold a terminal degree, must achieve Special graduate faculty status on the UMES Graduate Faculty and will be referred to as the cognate member of the Research Advisory Committee. Research Advisory Committee members are nominated by the student's advisor (who usually chairs the committee), after the student's input, and the Coordinator of the Education Leadership Program, and appointed by the Dean of Graduate Studies.

The Research Advisory Committee will administer the comprehensive examinations and approve proposals and products for doctoral internships and evaluate the resulting scholarly products in accordance with the policies and procedures of the UMES Graduate School. The Research Advisory Committee is responsible for initial approval of the student's exit experience (dissertation) topic. Students in the Education Leadership program are encouraged to establish interests in the exit experience inquiry early in the program. Students develop an exit experience inquiry and discuss it with the Research Advisory Committee. Students are expected to pursue the chosen inquiry topic throughout the degree program, thus providing direction in learning through coursework, engagement through the doctoral internship, and inquiry through dissertation research. Education Leadership students will develop a comprehensive research proposal which must be defended as a requirement for advancement to candidacy for the degree. All members of the Research Advisory Committee must be present for the oral portion of the comprehensive examination, the internship proposal and presentation, and the defense of the dissertation proposal.

The Dissertation Examination Committee is usually comprised of the members

of the Research Advisory Committee. A graduate faculty member (usually the advisor) from the area of specialization must chair the research committee. The Dean of Graduate Studies will identify the Dean's representative on the committee. The Dissertation Examination Committee will conduct the dissertation public seminar and defense of the dissertation research in accordance with the policies and procedures of the UMES Graduate School.

Members of the Dissertation Examination Committee are nominated by the advisor through the Coordinator of the Education Leadership Program and approved by the Dean of Graduate Studies. All members of the Dissertation Examination Committee must be present for the dissertation public seminar and the final dissertation defense examination. The interactive video network system may be used, but all committee members, the student, and the Dean of Graduate Studies must agree to this use. Phone/conference calls are not acceptable alternatives. Under rare circumstances including medical emergency, members of the UMES Graduate Faculty may substitute for committee members with written approval of the unavailable committee member, the Coordinator of the Education Leadership Program, and the Dean of Graduate Studies.

### ***Examinations***

Advancement to candidacy in the Education Leadership Program requires successful completion of the comprehensive examination, presentation of products of the doctoral internship, and defense of the dissertation research proposal. The comprehensive examination must be successfully completed before the student can defend the dissertation proposal. The comprehensive examination and internship activities are not sequential.

### ***Comprehensive Examination***

To be eligible to apply for the comprehensive examination, any incomplete grade and repeat grade courses must be satisfied, and the student has earned a 3.0 or better cumulative GPA.

The Research Advisory Committee is responsible for administering the comprehensive examination which students should take at the completion of thirty-three (33) semester hours of core and research methods coursework and 12 semester hours of area of specialization coursework. This examination, intended to assess scholastic and intellectual capacity in the core, research methods and area of specialization course work, focuses on the student's ability to integrate knowledge from these areas. The comprehensive examination includes both written and oral components and is conducted and evaluated in accordance with the policies and procedures of the UMES Graduate School. It is in the student's best interest to complete the comprehensive examination as early as possible after completion of the core, research methods and area of specialization course requirements. Areas of the examination will be chosen by the Research Advisory Committee from a general list formulated by the Coordinator of the Education Leadership Program and must include at least one question from the specialization area of the student and at least one question from each of the following: core domains of leadership, and research methods.

The examination will include a written component followed by oral questioning by the Research Advisory Committee. Students must provide the chair of their Research Advisory Committee with notice of intent to write the comprehensive examination. The chair of the Research Advisory committee will schedule the written portion of the comprehensive examination no sooner than 10 working days and no later than 20 working days upon receipt of the written notice of intent. The written portion of the comprehensive examination must be completed on the UMES campus within an 8 hour period. The chair of the Research Advisory Committee will schedule the oral portion of the comprehensive examination on the UMES campus within 10 working days after the written portion has been completed and evaluated. The oral examination usually provides students with opportunities to expand and clarify their written responses, but Research Advisory Committee members may present the student with additional questions. At the conclusion of the oral component, the Research Advisory Committee will provide the student, the

Coordinator of the Education Leadership Program, and the Dean of Graduate Studies with written notice of the written/oral comprehensive examination results. The Research Advisory Committee may either pass the student (a minimum of four affirmative votes is required) or the student fails. If failed, the comprehensive examination may, at the recommendation of the Research Advisory Committee, be retaken in its entirety within one year but no sooner than 40 working days after the initial written portion of the examination. The student's failure to retake the examination within one year or the second failure of the comprehensive examination results in cancellation of matriculation and dismissal from the program.

### **Doctoral Internship**

The Research Advisory Committee is responsible for approval in advance of the doctoral internship before the student begins the internship. Students are responsible to provide each member of the Research Advisory Committee with clear articulation of the internship setting, supervisor, goals and objectives, activities, duration, and intended outcomes and products at least 10 working days before the approval meeting. Students are expected to document at least 90 contact hours in the internship. During the meeting, the student makes a brief presentation of the internship followed by questions from the Research Advisory Committee. At the conclusion of the meeting, the Research Advisory Committee may approve, approve with revisions, or disapprove the internship proposal. The Research Advisory Committee will provide written notification of this outcome to the student, the Coordinator of the Education Leadership Program, and the Dean of Graduate Studies. Students with a disapproved internship proposal must present a satisfactory internship proposal within twenty (20) working days of the disapproval.

At the conclusion of the internship, students provide the Research Advisory Committee with the outcomes and products of the internship at least 10 days in advance of the internship defense. The internship defense consists of a brief presentation of the activities and products followed by questions from the

Research Advisory Committee. At the conclusion of the internship defense, the Research Advisory Committee will approve, approve with revisions, or disapprove the internship products. The Research Advisory Committee will provide written notification of the outcome of the internship examination defense to the student, the Coordinator of the Education Leadership Program, and the Dean of Graduate Studies. If failed, the internship presentation may, at the recommendation of the Research Advisory Committee, be retaken within 20 working days but no sooner than 10 working days. The second failure of the internship presentation or failure to meet the established re-examination timeline for presentation, results in cancellation of matriculation and dismissal from the program. As a general rule, students must successfully complete the internship defense before becoming eligible to defend the dissertation research proposal. But as research activities may be inextricably linked to the internship, students may engage in these activities (internship and dissertation research proposal defense) simultaneously with advance approval from the Research Advisory Committee, the Coordinator of the Education Leadership Program and the Dean of Graduate Studies.

### **Defense of the Dissertation Proposal**

The Dissertation Proposal Defense is an oral examination on the research proposal administered by the Research Advisory Committee. At least ten (10) working days prior to the examination, the student must provide all committee members with a formal research proposal which details: background information, research progress to date, specific objectives, timelines, and experimental design. The Research Advisory Committee examines the student on all aspects of the proposed research. The Research Advisory Committee is expected to determine the soundness of the research plan and whether the student has the proper motivation, technical and intellectual capacity, and resources to complete the research in partial fulfillment of the requirements of the Doctor of Education degree. The student passes with at least four affirmative votes; otherwise the student fails and must re-defend the research

proposal. A second failure or failure to re-defend within one year (but no sooner than 20 working days) of the first proposal defense results in cancellation of matriculation and dismissal from the program. Written notice of the outcome of the dissertation research proposal defense will be provided to the student, the Coordinator of the Education Leadership Program, and the Dean of Graduate Studies.

Students in the Education Leadership Program ascend to degree candidacy status upon successful completion of the comprehensive examination, the internship presentation, and the dissertation proposal defense.

### **Dissertation Seminar and Defense of the Dissertation Research**

A candidate for the Doctor of Education degree will present a public seminar on the dissertation research during the semester in which the degree will be awarded and at least 20 working days in advance of the day of the oral final examination. The student and the Advisor/Research Advisory Committee Chair will be responsible for initiating arrangements through the Coordinator of the Education Leadership Program for the date and advertisement of the seminar. The public seminar is a public meeting open to faculty, students, and other interested parties. The purpose of the public seminar is intended to provide the student with additional critical insight prior to the final oral defense.

The final oral defense of the dissertation is conducted by the Dissertation Examination Committee nominated by the student's advisor through the Coordinator of the Education Leadership Program (by the third week of the semester in which the student expects to complete all requirements, but no later than two months prior to the examination) and appointed by the Dean of Graduate Studies. This is usually the Research Advisory Committee plus a representative of the Dean of Graduate Studies in accordance with policies and procedures of the UMES Graduate School.

The chair of the Dissertation Examination Committee establishes the time and place of the final examination. The student is responsible for providing a complete and final draft of the dissertation to each member of the

committee at least 10 working days before the examination date. Announcement of the final examination will be made through the Office of the Coordinator of the Education Leadership Program at least two weeks prior to the examination. All final oral examinations are open to all members of the graduate faculty and students, although only members of the examining committee may question the candidate in the closed session. After the examination, the committee deliberates and votes in private. The Dissertation Examination Committee will provide the student, the Coordinator of the Education Leadership Program, and the Dean of Graduate Studies with written notice of the final examination results. The committee may pass the student with recommendations for modifications to the dissertation, pass the student and approve the dissertation, or disapprove the dissertation and fail the student (two or more negative votes constitute failure). At the discretion of the Dissertation Examination Committee, it may elect to re-examine failing students. Students may be examined no more than twice. Second failure of the final examination by the student results in cancellation of matriculation and dismissal from the Program. Further details and specifics are found in the UMES Graduate School's Established Procedures for Conduct of the Doctoral Dissertation Defense.

Following successful completion of the final oral examination, and the Graduate School's review of the dissertation format for binding, a final copy of the dissertation must be supplied to each member of the Dissertation Examination Committee and the Coordinator of the Education Leadership Program in addition to those required by the UMES Graduate School.

### ***Altered Timelines for the Program***

Completion of the requirements for the Doctor of Education degree in the Education Leadership Program within the recommended three-year time frame is contingent on successful completion of all coursework in sequential order and the required examinations. Unsatisfactory performance on the coursework, the comprehensive examination, the internship proposal, the internship products' presentation examination, the research proposal defense or

the final dissertation examination and subsequent re-examinations of any of the above necessarily extend the duration of the student's retention and graduation in the program. Consequently, students in the Education Leadership Program may need to commit additional time and resources beyond the recommended three-year time frame and sequence in accordance with the policies and procedures and timelines for doctoral degrees of the UMES Graduate School.

**COURSE DESCRIPTIONS**  
(Credit hours are in parentheses)

**Core Domains of Leadership:**

**ORLD 602 Theories and Processes of Organizations (3)**

The course examines theories, methods, and practices that influence organizations. Emphasis is placed on Education performance outcomes and how implementation impacts emerging global markets. Also explored will be the human, conceptual, and technical skills required of all policymakers working collaboratively within organizations to achieve individual, organizational, and societal goals.

**ACOL 623 Academic Leadership (3)**

Topics include a history of academic leadership, leadership styles, group dynamics, supervisory models and approaches. Organizational decision processes within academic settings and multicultural perspectives will be emphasized. Attention will be given to accountability, administration, finance, law, human resources, logistics, operations and management, marketing, strategic planning and public policy.

**EDLD 610 Educational Policy and Planning (3)**

The course provides an overview of policy-making and curriculum, facilities and financial planning in the K-12 school sector in the United States. The dynamics of policy making and planning at the local and state levels are emphasized.

**ORLD 603 Politics, Organizations, and Leaders: Legal and Ethical Issues (3)**

The impact of ethics as well as the responsible behavior of leaders in organizations are studied. Policies, practices, and their legal implications; resource identification and the need for human services, along with the impact of technology on human rights, will all be explored.

**ORLD 617 Personnel Development, Management, and Evaluation (3)**

The course covers leadership strategies required in recruitment, development, and in-service, effective use of personnel staff, and the evaluation techniques which will promote a highly motivated professional delivery system.

**ACOL 624 Fundraising, Lobbying, and Negotiating Skills (3)**

Grant writing, development of political networks, advocacy strategies, practices for raising and allocating resources, elements of mediation and negotiation, and techniques for empowerment and caucusing are to be reviewed. A study of North American economics will be the foci of this course.

**EDLD 612 Leadership in Curriculum, Instruction and Technology (3)**

The leadership role in curriculum and instructional design and improvement and in the increasing uses of technology in classroom learning and management are all explored topics.

**GVOL 621 Managing Public Financial Resources (3)**

The role of leadership in fiscal policy development and management will be addressed. Public budgeting and related financial management processes at the international, national, state and local levels will be explored. Specific focus will vary according to the needs and interests of students. Finance, markets, and investments will be baseline program components.



## **Specialization in Leadership**

### **EDGC 642 Advanced Group Processes (3)**

The course focuses on the development of group process facilitation skills. Analysis, intervention, and sculpting of group dynamics will be explored. The opportunity to co-lead a group process lab may be offered.

### **EDGC 644 Advanced Clinical Applications and Supervision (3)**

Advanced techniques in counseling will be explored. Models of supervision will be studied.

### **EDGC 646 Organization and Administration of Guidance Programs (3)**

This course examines the evolution of content-based comprehensive guidance programs and why guidance programs are an integral part of the school curriculum. The course will also provide experience in developing and implementing a comprehensive program.

### **EDGC 656 Seminar in Diversity (3)**

In-depth study and discussion of diversity issues in counseling will be conducted in a seminar format. Topics will include bias awareness, race, ethnicity, gender, ability, sexual orientation, socioeconomic status, among others.

### **CTED 600 Career and Technology Education Content, Methods, and Strategies (3)**

This course examines the philosophy, historical perspective, mission, vision, goals, content, methods, and instructional strategies in the areas of Career and Technology Education. National and state content standards are used to determine appropriate methods and strategies to design and deliver instruction. Instructional analysis, backward mapping, dimensions of learning and other techniques are used to design curriculum. Core technologies and content organizers for career clusters are analyzed. Unit plans using advanced instructional strategies are developed. Integrative instructional techniques for mathematics, science, English, social studies, and Career and Technology Education are explored to design meaningful instructional

units. Student assessment techniques, such as rubrics and electronic portfolios, are also discussed in relationship to instructional design.

### **CTED 602 Career and Technology Education Instructional Management and Organization (3)**

Instructional organization and student, classroom and facilities management techniques are examined in this course. Topics such as meeting the needs of a diverse group of students, performance-based instruction, utilizing instructional technology, modular labs, discipline, teacher responsibilities and liability, and types of instructional management plans are covered. All aspects of facilities design of Career and Technology Education labs, work areas, and classrooms are covered. The organization and management of a safe work environment and the use of this environment to support and enhance instruction are emphasized. Total school environment and school climate are discussed in the context of delivering an integrative educational program to all students. Students learn how to individualize instruction, develop leadership in students, utilize instructional technology, develop and manage student leadership organizations, and serve as a facilitator of instruction and learning. Public relations, communication techniques, and recruitment strategies are also covered.

### **CTED 615 Administration and Leadership (3)**

This course examines the roles, responsibilities and qualifications of a variety of administration and leadership positions in education. Specific Career and Technology Education leadership positions at the school-level, central office or county level, state education department of education, college and university, and federal level are examined, in addition to other administrative positions at these levels. Practicing professionals in these positions are invited to present seminars on issues in their area. Facilitative leadership, instructional leadership, staff development, public relations, student and staff diversity, instructional technology, ethics, environmental climate, strategic planning, funding, and other administrative and leadership issues specific to

Career and Technology Education are explored and researched.

**CTED 630 Special Problems in Career and Technology Education (3)**

There are many problems and issues facing the Career and Technology Education field today. This action research-based course allows the student to identify a topic, issues or problem in their classroom, school, school system, or state and develop a solution or options to solve the issue or problem. The student uses research methods to review the literature, clearly define the problem, collect data, determine possible solutions, and make recommendations. A seminar structure allows the student to present the research paper through a PowerPoint presentation. Other present day issues facing Career and Technology Education are discussed with the group of students enrolled in this course. Other products may be developed as a result of this course, including curriculum, recruiting materials, instructional models, and position papers.

**SPED 630 Current Legal and Advocacy Issues in Special Education (3)**

This course presents an in-depth study of legal issues derived from federal and state mandates in special education. It includes a review of administrative and judicial decisions, analysis of due process proceedings, and a study of current legal trends in the field. Prerequisite: Students must have taken SPED 600 or comparable course.

**SPED 638 Current Trends in Special Education (3)**

This course presents an in-depth analysis of selected topics in the field of education as they relate to the education of individuals with disabilities. Prerequisite: Students must have taken SPED 600 or comparable course.

**SPED 631 Interagency Collaboration in Special Education (3)**

This course presents an extensive overview of the collaborative efforts between public and private agencies involved in the delivery of services for individuals with disabilities. Local,

state, and federal agencies will be included from the areas of social services, rehabilitation, health care, justice, housing, labor and employment, as well as education. The roles of the agencies and the nature of the collaboration will be explored. Prerequisite: Students must have taken SPED 600 or comparable course.

**SPED 655 Seminar in Special Education Administration and Supervision (3)**

This course presents an extensive overview of the nature and roles of the special education administrator and supervisor using a seminar format. Topics related to research-based best practices, policies, procedures and challenges in the field will be highlighted, using local, state/regional, and national leadership models. Prerequisite: Students must have taken SPED 600 or comparable course.

**Research Methods**

**ORLD 611 Quantitative Research (3)**

This course is introduction to the field of quantitative research through the development of knowledge base and application of research skills and methodologies needed to select, read, and interpret relevant professional literature. Research reports emphasized.

**ORLD 612 Statistical Applications and Interpretations (3)**

The course covers fundamentals of research and case study design, focusing on implementation strategies that address organizational policies and practice. There is also a study in paradigm shifts and analysis of literature in the field of study. Cultural and technological influences, how public, private and corporate systems are altered by interpretative data, are also covered.

**ORLD 613 Statistics and Information Management (3)**

The course covers the study and use of statistics in a diverse, global society and the effective use of derived information to provide for orderly transitions in institutional governance.

## **DOCTORAL INTERNSHIP**

### **EDLD 898 Doctoral Internship (3)**

The doctoral internship is an experiential-based learning opportunity completed as a field experience related to current or future professional interests. Activities must be performed on site in concert with fellow professionals. Insight through engagement of educational organizations must be available. New learning is an essential component of this experience that will yield a scholarly product that has been supervised by an expert in the field and approved by the student's research advisory committee.

## **DOCTORAL DISSERTATION**

### **EDLD 899 Doctoral Dissertation (1-12)**

The doctoral dissertation in the Education Leadership Program is a self-directed, analytical, and comprehensive product of scholarly inquiry which will stand as a model within the field of professional literature. This project, demonstrating excellence, will be the center piece of the three (3) year academic experience that will add to the body of knowledge relative to leadership in specific settings and contribute to the human endeavor. The dissertation will be conducted in accordance with the policies and procedures of the UMES Graduate School.

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**For further information on this program, please contact:**

Graduate Program Coordinator  
Education Leadership  
University of Maryland Eastern Shore  
Princess Anne, MD 21853

## APPLIED COMPUTER SCIENCE

The graduate program in Applied Computer Science culminates in a Master of Science (M.S.) degree. It is designed to meet the needs of students such as:

A. Those who are already in the workforce and wish to update or improve their knowledge of current computer science (many of these students will have completed their undergraduate or graduate work in fields other than computer science); and

B. Those who have recently completed an undergraduate degree in a related discipline and wish, at the graduate level, to increase their understanding of computer science and its application in their field.

### Admission Criteria

Admission to this program adheres to the general criteria for admission to the UMES Graduate School. The general GRE is also required but, in view of the wide variety of fields from which students come, the subject GRE is not employed in admission consideration for Applied Computer Science. Students with undergraduate GPA's 2.5 or above but below 3.0, and those students with weaker preparation in computer science may be offered Provisional admission. This status is usually changed to Regular admission as soon as the students complete prerequisite requirements. Students whose computing background is weak may be directed to begin with CSDP 600 (Foundations of Computer Science), a graduate introduction to the field. Students may also be directed to take undergraduate computer science or mathematics courses as a condition for entering the graduate program. Courses required for Regular Admission should be completed as early as possible, generally within the first year.

### Course Requirements for Graduation

Students need a minimum of 32 credit hours to graduate from the program, not including any Provisional Admission requirements. All courses that are to count towards graduation must be passed with a minimum grade of "B", and students must also

pass at least five of these courses with a grade of "A".

**Note: All courses below numbered 601 through 698 carry three (3) credit hours each as shown in the parentheses.**

A. All students must complete the following core of four courses:

- CSDP 601 Data Structures and Algorithms (3)**
- CSDP 602 Data Base Mgmt. Systems (3)**
- CSDP 603 Assembler/Systems Programming (3)**
- CSDP 605 Advanced Programming Techniques (3)**

Students must also complete one of the following three core courses:

- CSDP 604 Computer Methods in Statistics (3)**
- CSDP 606 Numerical Methods in Computing (3)**
- CSDP 607 Applications of Linear Programming (3)**

B. From among the Computer Science courses numbered from CSDP 618 through CSDP 698 (each of which may be repeated up to three times with different topics), the student will complete at least nine credits.

- CSDP 618 Computer Applications in Business (3)**
- CSDP 628 Computer Applications in Education (3)**
- CSDP 638 Computer Applications in Science and Mathematics (3)**
- CSDP 648 Computer Applications in Industry (3)**
- CSDP 658 Computer Applications in Agriculture (3)**
- CSDP 668 Topics in Data Bases (3)**
- CSDP 678 Topics in Artificial Intelligence (3)**
- CSDP 688 Computer Applications in Medicine (3)**
- CSDP 698 Computer Methods in Computer Science (3)**

C. All students will complete the two courses below:

**CSDP 699 Master's Project in Computer Science I (4)**

**CSDP 798 Master's Project in Computer Science II (1-4)**

CSDP 798 is 4 credits in the first semester/session it is taken and then 1 credit for each semester/session thereafter as required. A student must be enrolled in CSDP 798 for any semester/session in which he/she needs to consult with his/her project advisor.

### **Other Academic Requirements**

Each student must demonstrate competence in computer programming in at least one language in each of three language areas:

- a. Standard high level languages (currently C++, JAVA, and BASIC);
- b. Assembler languages (currently 80x86 and 68000 family languages); and
- c. Special languages (currently PROLOG, LISP, PL/SQL and CLIPS).

This competence may be demonstrated by the successful completion of undergraduate courses in these languages, through the University's credit-by-examination mechanism or by the successful use of these languages in significant programming exercises in various courses during the student's graduate career.

Students may enroll in other graduate or undergraduate courses relevant to their program, but none of these may be substituted for the courses mentioned above in the section on "Course Requirements for Graduation".

For the Master's Project in Computer Science, a departmental committee consisting of at least three faculty members must approve the research project or thesis topic. The student is required to defend his/her completed project or thesis in a seminar that is open to University faculty and students. If a thesis is selected, the Graduate School requirements for a thesis option must be followed.

### **Cooperative Education Program Internship**

Students seeking an internship in the industry should have taken CSDP 699, Master's Project I, and all required lecture courses.

Students must register for the appropriate cooperative education credit to undertake the internship. The internship should provide learning experience in computer applications useful to strengthen their master's project as they return to complete CSDP 798, Master's Project II, in order to graduate.

### **Transfer Credit**

- i. Students desiring to transfer graduate credit need to apply for this privilege during their first semester at UMES;
- ii. Students need to remember the absolute limit of six credits of transfer (two courses);
- iii. In general, transfer requires an exact match with a local course as it has been offered here, so that transfer credit for courses CSDP 618 and higher is rarely approved.

### **Application Deadlines**

The application deadlines for admissions are as follows:

**Fall Semester - April 15 (April 1 for international applicants)**

**Spring Semester - October 15 (September 1 for international applicants)**

**Summer Sessions - April 15**

Only under extenuating circumstances will applications be accepted after a deadline date has passed.

### **Resources**

The Department has a Sun Lab consisting of Ultra 10 workstations and a Sun Enterprise 450 server, a Beowulf System consisting of Intel Pentium computers interconnected to a 3C superstack switch that allows for parallel processing, and two computer laboratories consisting of high-end Pentium computers. Users have access to a wide variety of Windows and Unix type development and application software. These computer facilities and several other campus wide computer facilities are available to students.

Library facilities are extensive and are supplemented each year. Opportunities exist for student participation in faculty research projects. While computer laboratory facilities are open and available all day and evening, most graduate courses are scheduled in the early evening so that those working during the day can participate.

## **COURSES**

**(Note: credit hours are given in parentheses)**

### **CSDP 600 Foundations of Computer Science (3)**

This course is an introduction to the techniques of software design and development in the context of software engineering. Topics include foundations of structured programming, object-oriented design, semantics and verification, abstraction and certification, software metrics, testing, etc. The course is primarily for students with an undergraduate degree in a cognate field needing a detailed hands-on plus theoretical background in computer science. This course or an equivalent is prerequisite for all graduate computer science courses.

### **CSDP 601 Data Structures and Algorithms (3)**

Topics include standard data structures, their algebraic background, computer application, and the relationship between the construction of correct and efficient algorithms and the data structures with which these algorithms deal. NP-hard and complete problems and approximation are covered. The course requires the creation and successful running of a small number of extensive computer programs creating and manipulating various data structures. **Prerequisite: CSDP 600 or permission of the Department.**

### **CSDP 602 Data Base Management Systems (3)**

This course is an introduction to relational database principles and applications. Emphasis is on design (particularly normal forms), the current state of database realization and student work on an extensive project lasting all semester in the creation and realization of major parts of a DBMS. Additional topics include privacy, security and multi-user interactions, as well as

theoretical data communications structures and their current realizations. **Prerequisite: CSDP 600 or permission of the Department.**

### **CSDP 603 Assembler/Systems Programming (3)**

This course is an introduction to operating systems and their relationship to computer and network architecture, construction and applications, including an intensive introduction to assembler language programming. Architectural principles will be covered from a general and theoretical point of view. **Prerequisites: CSDP 600 or permission of the Department.**

### **CSDP 604 Computer Methods in Statistics (3)**

This course is an introduction to the principles and applications of probability and statistics needed in graduate studies in various academic areas and to the computer realization of these methods. The course begins with a brief intensive review of basic statistical principles. **Prerequisites: One Semester of calculus.**

### **CSDP 605 Advanced Programming Techniques (3)**

This course covers special programming topics, including the systems analysis process and applications. Students will apply systems methods to the creation of a major term project, consisting of a system of applications' programs with complete documentation, in an area of the student's application interest as approved by the instructor. **Prerequisite: CSDP 600 or permission of the instructor.**

### **CSDP 606 Numerical Methods in Computing (3)**

Topics covered include iterative methods and error analysis the solution of non-linear equations, interpolation and approximations, and numerical differentiation and integration in addition to use numerical solution of systems of equations, determinants, matrix inversion, and eigenvalues. In the second half of the semester, attention turns to the numerical solution of ordinary differential equations, boundary value problems and an introduction to the numerical solution of partial differential equations, as time

allows. **Prerequisites: One semester of calculus.**

**CSDP 607 Applications of Linear Programming (3)**

This course introduces the model building process and operations research methods. It begins with a review of the necessary mathematical background, and then introduces simplex computations, considering degeneracy and quality. Applications follow in the areas of transportation, production scheduling and inventory control problems. As time allows, parametric and integer programming applications and game theory methods in model building are introduced. **Prerequisite: Linear Algebra.**

**CSDP 618 Computer Applications in Business (3)**

Current topics include object-oriented database systems, business consideration for LANs and business applications programming.

**CSDP 628 Computer Applications in Education (3)**

Current topics include classroom record management techniques, elementary CAI, and the application of more sophisticated methods in the evaluation of student strengths and weaknesses using the computer.

**CSDP 638 Computer Applications in Science and Mathematics (3)**

Current areas include numerical methods, exact solutions of algebraic problems and special computer methods in number theory.

**CSDP 648 Computer Applications in Industry (3)**

Current areas include artificial neural networks and their algorithms, parallel operating environments and the use of parallel languages under parallel environments.

**CSDP 658 Computer Applications in Agriculture (3)**

Current topics include expert systems for small farm applications, farm-record management, and special planning tools for agriculture.

**CSDP 668 Topics in Databases (3)**

Current topics include database programming, temporal and constraint databases, object-oriented and object-relational databases, database security and data mining.

**CSDP 678 Topics in Artificial Intelligence (3)**

Current topics include knowledge representation, expert systems, natural language understanding, automated deduction, commonsense reasoning, neural networks, planning and learning.

**CSDP 688 Computer Applications in Medicine (3)**

Current topics include medical evaluation/diagnosis assistance systems, medical information management systems, and special area medical computation.

**CSDP 698 Computer Methods in Computer Science (3)**

Current topics include combinatorics, algorithms and analysis, geometric mapmaking and cryptanalysis.

**CSDP 699 Master's Project in Computer Science I (4)**

During this semester, the student will carry out the analysis and design of a state-of-the-art system of programs in his/her area of expertise and interest and begin the actual programming and documentation. **Prerequisite: Certification by the advisor that the student is prepared to begin research work in computer science.**

**CSDP 798 Master's Project in Computer Science II (1-4)**

During this semester, the student will complete the project begun in CSDP 699, including all documentation, and give a public demonstration of its effectiveness, originality and appropriateness to the field of application. In addition, the student will prepare a written version of the material in a form consistent with departmental and Graduate School standards. Successful completion of this course requires either: (a) the acceptance for publication of this project description by a national journal in the appropriate field or by a national conference that publishes its proceedings in full [the actual

publication may occur after the course ends]; or  
(b) the approval of this project and its documentation by a departmental graduate committee set up for this purpose. CSDP 798 is 4 credits in the first semester/Summer session it is taken and then 1 credit for each semester/session thereafter as required. A student must be enrolled in CSDP 798 for any semester/session in which he/she needs to consult with his/her project advisor.  
**Prerequisite: CSDP 699.**

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**For further information on this program, please contact:**

Graduate Program Coordinator (APCS)  
Dept. of Mathematics and Computer Science  
Kiah Hall  
University of Maryland Eastern Shore  
Princess Anne, MD 21853



## **CAREER AND TECHNOLOGY EDUCATION**

### **PROGRAM DESCRIPTION**

The Department of Technology offers a Master of Education Degree Program (M.Ed.) in Career and Technology Education (CTED). The program will refine the student's knowledge and skills to become master classroom teachers, resource teachers, teacher consultants, specialists, and administrators in Career and Technology Education. The program is also designed to prepare teachers and educational leaders to qualify for Advanced Professional Certification (APC) in Maryland.

Students are admitted to the M.Ed. program at the University of Maryland Eastern Shore (UMES). Coursework is offered at UMES, the Maryland Center for Career and Technology Education Studies located at the Baltimore Museum of Industry (BMI on Key Highway), and other University System of Maryland (USM) institutions that offer graduate courses in education. The program offers strands in **Technology Education and Occupational Education**. UMES offers the specialized content and methods courses related to Occupational and Technology Education. In collaboration with UMES, other USM campuses may offer the professional education courses for transfer to the UMES program. The course of study may vary with the experience and qualifications that individual students bring to the program.

### **PROGRAM GOALS AND OBJECTIVES**

The overall goal of the graduate program is to prepare individuals to become master teachers, administrators, and leaders who are committed to developing, instructing, coordinating, and directing quality programs in Career and Technology Education. The following program objectives assist in accomplishing this goal:

- Provide opportunities for teachers to gain professional knowledge and skills required for the M.Ed. degree and Advanced Professional Certification.

- Prepare individuals to build upon the content knowledge they have acquired in the baccalaureate degree by providing additional professional knowledge and content necessary for advancing careers in teaching and administration.
- Prepare teachers and leaders who are knowledgeable of research, theory and practice related to effective classroom and laboratory instructional management.
- Develop teachers and leaders who are committed, continuous learners, and contributors to the enhancement of the teaching profession.
- Prepare teachers and leaders who demonstrate sensitivity and effective interpersonal skills in working with culturally diverse populations.

### **PROGRAM COMPETENCIES**

Students who complete the M.Ed. program in Career and Technology Education will be expected to demonstrate successful achievement in the following:

- Knowledge of the philosophy, mission, vision, goals and evolution of Career and Technology Education.
- Knowledge and application of the core technologies identified in the Maryland Curricular Framework for Technology Education and Maryland State Technology Education Content Standards.
- Application of research and inquiry for the improvement of classroom and laboratory instruction.
- Understanding of the learner's physical, cognitive, and emotional development and the implications for learning and instruction.
- Knowledge of the social contexts in which education occurs, the

philosophical perspectives which influence teaching and learning, and an understanding of personal beliefs related to the role of the teacher and the learner.

- Skills and knowledge necessary to assist learners with special needs and diverse cultural backgrounds in an instructionally integrated setting.
- Ability to organize and manage a classroom and laboratory on the basis of research, best practices, expert opinion, personal attributes, and student learning needs.
- Development of a variety of teaching/learning strategies and techniques.
- Appropriate use of a variety of approaches to assess and evaluate instructional outcomes.
- Use of instructional technology, including computers and media, for classroom, laboratory and professional needs.
- Application of theory and best practices in classroom laboratory situations through field experiences.

## ADMISSION REQUIREMENTS

Students who enter the M.Ed. program must possess an earned baccalaureate degree in Technology Education or a related content area such as industrial arts or occupational technical education. Matriculating students must meet all requirements for regular admission to the graduate program. In some cases, provisional admission will be granted.

Applicants must fulfill the following for regular admission:

- Complete the graduate school application for degree program including a statement of purpose.
- Undergo a structured review by the graduate faculty admissions committee.

- Possess an undergraduate cumulative grade point average (GPA) of at least 3.0, or possess a prior graduate degree.
- May require a writing sample essay that focuses on current educational issues, as determined by the graduate faculty admissions committee.
- Submit official transcripts from all higher education institutions attended.
- Submit three letters of evaluation/recommendation that address:
  1. Personal qualities, e.g. character and academic abilities, problem solving, conceptual thinking, and the writing and speaking skills needed to support a rigorous graduate program.
  2. Personal determination and commitment needed to complete the program.
- **Students must achieve passing scores which meet established Maryland State standards on the core battery of the PRAXIS teacher examinations.**

Transcripts and academic credentials of all applicants will be reviewed by the graduate admissions committee. Individuals who lack appropriate coursework will be expected to complete the identified course content requirements prior to their enrollment in the capstone research portion of the program.

## APPLICATION DEADLINES

In general, application deadlines for admissions are as follows:

Fall Semester	May 1
Spring Semester	November 1
Summer Sessions	April 1

Applications will be accepted and reviewed at any time throughout the year.

## PROGRAM OF STUDY

The M.Ed. program combines Career and Technology Education content with professional education theory and practice. Graduate level scholarship and research-based content will be presented throughout the program. The essential elements of teaching, the core technologies, and Technology Education teaching/learning strategies, and Maryland State Technology Education Content Standards approved by the Maryland State Department of Education will guide instructional decision-making.

## RETENTION AND EXIT REQUIREMENTS

Students enrolled in the M.Ed. program complete a state-approved program of study that includes at least 30 semester hours of graduate credit with a cumulative “B” (3.0) or higher grade point average. Six (6) credits are required in a capstone research experience. Of the remaining 24 credits, six (6) will be required in Occupational or Technology Education and six (6) will be required in professional education. Twelve (12) elective credits will be selected with approval of the graduate advisor based on the student’s previous educational experience and career goals. Overall, eighteen (18) credits will be required at the 600 level or higher and a maximum of twelve (12) credits can be completed at the 400 level in designated courses. Students will take a written comprehensive examination and complete an action research seminar paper within the last six credits of their program. Students who have completed 24 credits of coursework and have passed the comprehensive examination will be advanced to Master’s Candidacy.

A maximum of six (6) graduate credits will be accepted for transfer into the program from non-USM institutions, provided these credits are directly related to the program and meet the criteria for transfer of credit. No more than six (6) credit hours of “C” grades will be acceptable in the program.

Students must complete the program within three calendar years of advancement to Master’s Candidacy, but no later than their five-

year admission period. Full-time candidates in the Career and Technology Education M.Ed. program will be expected to complete the program in one academic year including one summer. Part-time students, who attend uninterrupted, will be expected to complete the program in three years.

The following represents the typical program of study for students pursuing the M.Ed. in the Technology Education or Occupational Education strand.

### Typical M.Ed. Program of Study: TECHNOLOGY EDUCATION STRAND

Course #	Core Required	Credits
CTED 600	Technology Education Content, Methods and Strategies	(3)
CTED 602	Technology Education Instructional Management and Organization	(3)
CTED 615	Administration and Leadership	(3)
EDUC 610	Learning and Instructional Design	(3)
CTED 640	Research in Career and Technology Education I	(3)
CTED 650	Research in Career and Technology Education II	(3)
	<b>Electives</b>	18
EDTE 482	Core Technologies I	(3)
EDTE 483	Core Technologies II	(3)
EDTE 484	Information Systems	(3)
CTED 630	Special Problems in Career and Technology Education	(3)
		12
<b>TOTAL</b>		<b>30</b>

**Selection of elective courses is based on previous education experience and requires the approval of the graduate advisor.**

**Additional electives include:**

EDTE 437	Student Performance Assessment	(3)
EDTE 440	Integrating Math and Science in Occupational And Technical Education	(3)
EDTE 450	Mentoring: Expectations And Responsibilities	(3)
EDTE 499	Research and Experimentation in Technology Education	(3)
SPED 600	Characteristics of Exceptional Individuals	(3)
EDCI 402	Fundamentals of Reading Instruction	(3)
EDCI 425D	Curriculum and Instruction In Technology Education	(3)
EDUC 612	Advanced Educational Psychology	(3)
EDUC 620	Advanced Human Growth and Development	(3)
CTED 610	Teaching Adult and Post-Secondary Education Programs	(3)

**Typical M.Ed. Program of Study:  
OCCUPATIONAL EDUCATION STRAND**

Course #	Core Required	Credits
CTED 601	Occupational Education Content, Methods and Strategies	(3)
CTED 603	Occupational Education Instructional Management and Organization	(3)

CTED 615	Administration and Leadership	(3)
EDUC 610	Learning and Instructional Design	(3)
CTED 640	Research in Career and Technology Education I	(3)
CTED 650	Research in Career and Technology Education II	<u>(3)</u> 18
<b>Electives</b>		
EDTE 445	American Industry and Global Competition	(3)
EDTE 485	Safety Programs in Education and Occupational Settings	(3)
CTED 607	Coordination of Work Experience Programs	(3)
CTED 630	Special Problems in Career and Technology Education	<u>(3)</u> 12
<b>TOTAL</b>		<b>30</b>

**Selection of elective courses is based on previous education experience and requires the approval of the graduate advisor.**

**Additional electives include:**

EDTE 437	Student Performance Assessment	(3)
EDTE 450	Mentoring: Expectations And Responsibilities	(3)
EDTE 486	Instructional Media Development	(3)
SPED 600	Characteristics of Exceptional Individuals	(3)
EDCI 402	Fundamentals of Reading Instruction	(3)

EDUC 612 Advanced Educational Psychology (3)

EDUC 620 Advanced Human Growth and Development (3)

CTED 610 Teaching Adult and Post-Secondary Education Programs (3)

### COURSE DESCRIPTIONS

**CTED 600 Technology Education Content, Methods, and Strategies (3)**

This course examines the philosophy, mission, vision, goals, and evolution of Technology Education. The Maryland State Technology Education Content Standards, teaching and learning strategies, performance-based instruction, and student assessment are also covered. Integrating core academic knowledge and skills, and the professional roles and responsibilities of Technology Education teachers within the total school community at the secondary level are discussed.

**CTED 601 Occupational Education Content, Methods and Strategies (3)**

This course examines the philosophy, mission, vision, goals, and evolution of Occupational Education. Teaching and learning strategies, performance-based instruction, skills for success, assessment, blended instruction, work-based learning, school-to-careers, and student diversity issues will be covered.

**CTED 602 Technology Education Instructional Management and Organization (3)**

This course covers planning, implementing, evaluating, and marketing Technology Education programs. Particular attention will be given to the organization and management of a safe laboratory environment and the use of the laboratory to support and enhance instruction. The safe and effective use of tools, equipment, and materials will be covered, as well as a review of the Technology Education teacher's responsibilities regarding student safety and

laboratory maintenance. Teacher and school system liability will be covered.

**CTED 603 Occupational Education Instructional Management and Organization (3)**

This course covers planning, implementing, evaluating, and marketing Occupational Education programs. Particular attention will be given to the organization and management of a safe work environment and the use of this environment to support and enhance instruction. The safe and effective use of tools, equipment, and materials will be covered, as well as a review of the Occupational Education teacher's responsibilities regarding student safety and laboratory maintenance. Teacher and school system liability will be covered.

**CTED 607 Coordination of Work Experience Programs (3)**

A variety of work-based learning programs will be covered including cooperation work experience, internships, mentorships, job shadowing, and apprenticeship. Mission, trends and current practices in these programs will be discussed. Methods and techniques of coordination in comprehensive and part-time programs at the secondary and adult levels are covered.

**CTED 610 Teaching in Adult and Post-Secondary Education Programs (3)**

Methods and techniques for teaching adult learners in secondary and in post-secondary occupational and technical programs are covered. The needs, interests and motivation of the mature learner are analyzed. Secondary and post-secondary educational settings will be compared

**CTED 615 Administration and Leadership (3)**

This course covers the theories and concepts of educational administration and leadership in Career and Technology Education. Societal forces that affect educational administration, tasks of administration, role requirements, administrative processes, division of responsibility, organizational variables, the administrator as an individual and leader, and

professional organizations and ethics are discussed.

**CTED 630 Special Problems in Career and Technology Education (3)**

Students who desire to pursue a special research problem or project under the direction of their advisor may register for this course. The course may be repeated twice with different topics and approval of the advisor.

**CTED 640 Research in Career and Technology Education I (3)**

Students are introduced to the three basic forms of research: historical, descriptive and experimental. Emphasis is placed on incorporating research into classroom teaching. A variety of databases will be used in research. The course provides a technological base for the development of web-based learning,, portfolios, and a research methodology base for subsequent courses. Qualitative and quantitative data treatments will be developed within the context of individual student projects and the evaluation of the research literature.

**CTED 650 Research in Career and Technology Education II (3)**

Students will complete and present their portfolios, action research projects, and seminar papers. Educational technology, especially as it applies to teaching in the schools, will be integrated into the participants' project work.  
**Prerequisites: Successful completion of CTED 640.**

**EDUC 610 Learning and Instructional Design (3)**

Advanced skill development in the area of individualized programming, including adaptation and modification of curriculum, instructional design, program development, and evaluation are covered in this course. Learning theory and its application in the classroom are emphasized.

**EDUC 612 Advanced Educational Psychology (3)**

Application of psychology to learning processes and theories are examined. Topics covered include individual differences, measurement, motivation, emotions, intelligence, attitudes,

problem solving, thinking, and communicating in educational settings.

**EDUC 620 Advanced Human Growth and Development (3)**

This course is an advanced study of human growth and development using a life-span approach. Current research and theories in the areas of cognitive processes, learning abilities, and social and psychological processes will be examined.

**SPED 600 Characteristics of Exceptional Individuals (3)**

This course is an overview of the major types of exceptional abilities and their impact on the teaching/learning process. The legal mandates that relate to the field of special education are covered.

**EDCI 402 Fundamentals of Reading Instruction (3)**

This course teaches the fundamentals of reading instruction including current theories and methods of reading instruction. The course also presents an overview of reading programs in K-12 and considers the integration of reading into the student's areas of specialization at the middle and secondary school levels. The course emphasizes the identification of requisite reading skills, the assessment of reading skill levels (instructional and independent), the development of strategies and materials for reading mastery, and the remediation of reading difficulties.

**EDTE 437 Student Performance Assessment (3)**

This course examines how to identify and utilize appropriate student performance criteria to measure student achievement in the cognitive, psychomotor and affective domains. A variety of assessment instruments will be evaluated and developed to document student mastery of instructional objectives.

**EDTE 445 American Industry and Global Competition (3)**

This course is an analysis of American industry in relation to current and future competitive trends. Personnel organizations, personnel needs, production, quality and competition in

selected manufacturing and construction enterprises are covered.

**EDTE 450 Mentoring: Expectations and Responsibilities (3)**

This course is an introduction to mentoring, and covers selecting mentors, mentor/teacher responsibilities, teacher observation, problems of beginning teachers, mentoring techniques, assessment, and portfolio development. This course is designed to prepare experienced teachers who are interested in becoming mentors or helping teachers in the secondary school.

**EDTE 482 Core Technologies I (3)**

Core technologies are the building blocks of all technology systems. Mechanical and structural technologies are examined with regard to common components, simple controls, basic system design, safety, and applications. An overview of materials technology will include an examination of ferrous and non-ferrous materials, common industrial forms, and the primary and secondary processing of industrial materials. The course includes an introduction to biotechnology with instructional units devoted to genetics, environmental biotechnology, and the future of biotechnology. Topical investigations and modular activity packages are utilized to enhance understanding of the core technologies.

**EDTE 483 Core Technologies II (3)**

Core technologies are the building blocks of all technology systems. Electrical, electronic, optical, fluid, and thermal technologies are examined with regard to common components, simple controls, basic system design, safety, and applications. The context for the study of these core technologies is the design and development of technology systems to solve practical problems. Communication skills are developed through the documentation of the design and development process. Topical investigations and modular activity packages are utilized to enhance understanding of the core technologies.

**EDTE 484 Information Systems (3)**

This course will provide students with knowledge and skills related to communication systems, application of computers, computer controlled robots and machines, imaging,

publishing, audio systems, video systems, and telecommunications. Students learn how to integrate instruction on information systems into the teaching/learning strategies used in Technology Education. These strategies include: ingenuity challenges, topical investigations, product generation, modular activity packages, research and experimentation, and engineering design and development.

**EDTE 485 Safety Programs in Education and in Occupational Settings (3)**

This course examines exemplary safety practices through discussions, group demonstrations, and development of written safety programs for Occupational Education facilities. Industrial safety programs will be studied through organized industry visits.

**EDTE 486 Instructional Media Development (3)**

Students will develop instructional materials in this course. The course covers commercially available sources and teacher-developed materials including web pages, bulletin boards, transparencies, computer-generated materials, power point presentations, and the use of instructional technology devices and equipment.

\*\*\*\*\*

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