



University of Arkansas
Pine Bluff



Graduate
Catalog
2012 - 2014

Graduate Studies
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<http://grad.uapb.edu>

**DIVISION OF GRADUATE STUDIES
AND
CONTINUING EDUCATION**

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Dean: Dr. James O. Garner

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Interim Dean: Dr. Fredda Carroll**

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USEFUL TELEPHONE NUMBERS

(870 area code unless otherwise stated)

Academic Affairs.....	575-8475
Academic Records.....	575-8487
Addiction Studies Graduate Coordinator	575-5346
Admissions	575-8492
Agriculture Regulations Graduate Coordinator.....	575-8543
Alumni Affairs.....	575-7150
Aquaculture/Fisheries Graduate Coordinator.....	501-676-3124
Bookstore	575-8857
Campus Police/Student IDs.....	575-8101
Career Services.....	575-8461
Cashier	575-8279
Chancellor.....	575-8470
Computer Science and Technology Graduate Coordinator	575-8774
Cooperative Extension.....	575-8131
Disability Services	575-8552
Division of Graduate Studies and Continuing Education.....	575-8315
Health Services	575-8508
Library	575-8411
Post Office.....	575-7159
Registrar	575-8491
Residential Life.....	575-8079
School of Agriculture, Fisheries, and Human Sciences	575-8529
School of Arts and Sciences.....	575-8210
School of Business and Management	575-8577
School of Education	575-8256
School of Education Graduate Programs	575-8246
Student Affairs	575-7702
Student Counseling, Testing, and Development	575-8290
Student Financial Services	575-8302
Student Life	575-8360
Student Support Services	575-8380
Student Union.....	575-8926
University College	575-8335
Veterans Affairs	575-8089

UNIVERSITY HISTORY

The University of Arkansas at Pine Bluff

The University of Arkansas at Pine Bluff is a state supported land grant institution. It was created in 1873 by an act of the Legislature as a branch of the Arkansas Industrial University (now the University of Arkansas).

Originally known as Branch Normal College, the school opened on September 27, 1875 in a rented frame building on the corner of Sevier and Lindsey Streets in the city of Pine Bluff. With Professor J.C. Corbin in charged, seven students enrolled, three from Jefferson County and four from Drew County.

In 1882, the school moved to a two-story brick structure erected by state funds on a fifty-acre plot in the suburbs of Pine Bluff. Between 1881 and 1894, the school conferred ten Bachelor of Arts degrees. From 1894 to 1929, the school operated as a junior college.

In 1927, the governor appointed an independent board of trustees for the college and the state legislature appropriated \$275,000 for the erection of a new physical plant just outside the city limits. To aid in this project, the General Education Board contributed \$183,000 and the Resenwald Fund \$44,000.

In 1929, the school expanded into a standard four-year degree-granting institution and in 1933 was certified as a standard four-year college. Two years later, a building program provided eight residences for instructors, a gymnasium in 1938, two more dormitories, and a library.

In 1942, as a result of the sudden and untimely death of John Brown Watson, Lawrence A. Davis, Sr. was acting president. In April 1943, the Board of Trustees named Davis president of the institution. Toward the end of the 1940's, an extensive building program began that eventually doubled the college's facilities: Larrison Science Building (1950), Woodard Agricultural Building (1950), L.A. Davis, Sr. Student Union (1952), Brown Student Infirmary (1952), Rust Industrial Technology Building (1963), John Brown Watson Library Building (1968), Room Norma E. Harrold Dormitory Complex for Women (1965), Franks-Kincaid Faculty Apartment Building (1965), and J.C. Corbin Teacher Education Building (1965). In 1968, an extension to the Lawrence A. Davis, Sr. Student Union expanded the lobby, kitchen and dining room facilities. Students began using the new Isaac Hathaway Fine Arts Building during the 1969 fall semester.

The College Farm or 220 acres and the Agri-Lab underwent an expansion in services and research facilities in 1966 involving an expenditure of a quarter of a million dollars. In cooperation with the University of Arkansas and the Arkansas Archeological Survey, the college's Anthropological Laboratory increased its research facilities and enriched its curricular offerings in 1967. On July 1, 1972, a merger rejoined the two oldest public higher educational institutions in the state: Arkansas Agricultural, Mechanical, and Normal College was merged into the University of Arkansas System. Arkansas AM&N was renamed the University of Arkansas at Pine Bluff.

With appropriations from the State Legislature and Federal Government, the University initiated another physical plant improvement program in 1972. A physical plant building was completed in 1973, a new science building in 1975, and a major renovation program for all existing buildings and grounds was completed or planned by mid-1975. In 1977, the University added a \$28,000,000 Home Economics complex and a \$1,600,000 Administration Building. At a cost of \$7,500,000 a Health, Physical Education and Recreation Complex was completed in 1984.

When Lawrence A. Davis, Sr. left in August 1973, Johnny B. Johnson, Sr. was appointed Acting Chancellor. On July 1, 1974, Herman B. Smith, Jr. began his duties as Chancellor. Under his leadership, new programs were added to the curriculum and a vigorous recruiting drive was initiated to increase student enrollment. A combination of increased state funding and outside support resulted in the improvement of the physical plant and the acquisition of a higher percentage of faculty with doctoral degree. Dr. Smith resigned his position June 30, 1981. From January 1981 through August 1981, an Administration/Operation Committee guided the University.

On September 1, 1982, Lloyd V. Hackley assumed duties as Chancellor of the University. His commitment to excellence in higher education echoed throughout the state of Arkansas resulting in his appointment to the Education Standards Committee and the Quality Higher Education Study Committee by Governor Bill Clinton. During his tenure, Dr. Hackley obtained funding to construct and furnish the Kenneth L. Johnson, Sr. HPER Complex. He also supervised the restructuring of UAPB's academic program into a University College to supervise the first two years of instruction and an Upper Division to supervise the last two years. His resignation became effective September 30, 1985.

From October 1, 1985 to August 15, 1986 Dr. Johnny B. Johnson served the University as Provost and chief operating officer. On August 19, 1986, Dr. Charles A. Walker assumed responsibilities as Chancellor. During his administration, UAPB initiated graduate programs leading to the Master of Education degrees in Elementary and Secondary Education. The UAPB Research Center was opened. The Johnny B. Johnson Residence Complex was constructed and the L.A. Davis Student Union and the Harrold Residence Complex received extensive renovations.

After Dr. Walker's resignation in June 1991, Dr. Carolyn F. Blakely was appointed Interim Chancellor. Dr. Lawrence A. Davis, Jr., class of 1958, replaced Dr. Blakely when he was appointed Chancellor in November of 1991. New degrees added during Dr. Davis' administration included Sound Recording Technology, Rehabilitation Services, and Regulatory Science. Aquaculture/Fisheries enrolled its first students for the Master of Science degree in 1997 under Dr. Lawrence A. Davis, Jr.'s administration. Dr. Davis retired effective June 30, 2012. Dr. Calvin Johnson served as Interim Chancellor from July 1, 2012 until June 30, 2013. Currently, Dr. Lawrence Alexander serves as Chancellor, assuming the position July 1, 2013.

Location

The University of Arkansas at Pine Bluff is located in the northern part of the city in South Central Arkansas. Pine Bluff has a population of 49,009 and is the county seat of Jefferson County. It is accessible by land via State Highways 65 and 79 and by air via Little Rock Airport.

Culture and recreational facilities include the Southeast Arkansas Arts and Science Center, movie theaters, libraries, a bowling alley, roller-skating rinks, golf courses, swimming pools, parks, a city lake, riverside sporting and recreation activities, and a convention center that attracts top national entertainers. Pine Bluff has major chain motels and a variety of fine restaurants. Just 38 miles to the north is the state capitol, Little Rock. Approximately 142 miles northeast of Pine Bluff is Memphis, Tennessee.

MISSION OF THE UNIVERSITY**Historical Mission**

One of the most important aspects of the historical mission of Agricultural, Mechanical and Normal College was established by the Legislative Act of 1873. The Act stipulated that the institution was being established for the convenience and well being of the “poorer-classes.”

The second statutory provision relating to the mission of the College was the Land Grant Act of 1890 which made the Morrill Act of 1862 applicable to Agricultural, Mechanical and Normal College.

The Act of 1862 charged the College, without excluding other scientific and classical studies and including military tactics, to teach such branches of learning as related to agriculture and mechanic arts. These subjects are to be taught in such a manner as the State prescribes in order to provide the liberal and practical education of the laboring classes of people in the several pursuits and occupations of life.

Evolving Mission

In 1972, when AM&N was merged with the University of Arkansas System, the institution’s name was changed to the University of Arkansas at Pine Bluff and the mission was expanded. The expanded mission is as follows: The University of Arkansas at Pine Bluff continues to maintain a special sensitiveness to the needs, aspirations, problems and opportunities of its historic constituents. It shall expand its mission with a high degree of excellence and with a sense of constantly improving quality. The new social context that is emerging as a result of integration requires that this mission be expanded, extended and enriched so as to become consonant with the needs and demands of a more culturally heterogeneous student clientele-a clientele differing academically, socially, racially, ethnically and culturally.

To fulfill its mission of service to this heterogeneous clientele, UAPB shall develop creative and innovative activities that produce new curricular models in the fields of aesthetics, social and political institution, and scientific technical development. This will be accompanied by new instructional designs and professional staffs capable of implementing such programs.

The thrust of this new and expanded mission could and should result in the re-examination and improvement of value systems and moral behavior of political institutions and of the economic system. Such a mission does not merely support the advancements of science and technology; it uses science and technology to help solve economic, physical, social, political, racial and cultural problems.

The institution's ultimate goal is to assist America in building a new social organism that will accommodate racial, ethnic and cultural pluralism in a manner that will enhance the quality of lives and patterns of living and weld the nation into one people, a mission which seems essential to the future security and health of the nation.

GOALS AND OBJECTIVES OF THE UNIVERSITY

The following long-and short-range goals, which emerge from the university's mission, address the major role and functions of the institution.

Goal 1. Strengthen institutional quality through graduate and undergraduate programs of excellence in in-class and out-of-class teaching and learning activities.

Objectives:

1. Promote program excellence and access, epitomized by high expectations and effective, a global perspective, technology literacy, and responsive teaching and learning.
2. Create a network of support mechanisms that will facilitate excellence in teaching and learning.
3. Promote and support faculty and staff excellence through effective recruitment, engagement, appropriate recognition and rewards, development, and opportunities for career advancement.
4. Promote and support student excellence through appropriate recognition, ongoing assessment, advisement, appropriate curricular offerings and research engagement experiences, counseling and testing, health and wellness, leadership training and experiences, as well as opportunities for academic, social, and career advancement.
5. Develop and implement effective strategies to increase recruitment, retention, and graduation rates.
6. Develop an effective and efficient infrastructure for distance learning that facilitates increased course offerings at a distance.
7. Develop new programs that meet the continuously evolving needs of constituencies.

Goal 2: Engage faculty/staff and students in mission-oriented research and creative activities to solve stakeholder problems and enhance the quality of life.

Objectives:

1. Establish institutional mechanisms (i.e., release time, support staff, facilities, and grants management) to promote research, scholarly, and creative activities.
2. Provide financial incentives and rewards to recognize faculty productivity in research and scholarly activities.
3. Establish partnerships and collaborations with other institutions and agencies to broaden the scope and productivity of research and creative activities.
4. Increase the university's investment in research and scholarly activities through seed grants and indirect cost recovery.

Goal 3: Strengthen the institution's quality in scholarship through engaging the entire university in fulfilling its public service mission.

Objectives:

1. Identify and provide resources to support public service and engagement.
2. Provide opportunities for service initiatives in every curriculum
3. Establish collaborative partnership efforts across units, programs, and communities to facilitate the University's public service mission.
4. Provide incentives and recognition for engagement and public service initiatives.

Goal 4: Enhance services offered by support units in executive management, finance and administration, and student affairs.

Objectives:

1. Enhance services offered by the office of human resources, financial aid and student accounts.
2. Enhance services offered by office of research and sponsored programs in seeking and administering funds for research and sponsored programs.
3. Provide alternative methods of storing files and records.
4. Maintain and develop physical facilities that will allow a safe and effective teaching, learning, research, and service environment.
5. Strengthen information technology resources to enhance all of the university's activities.
6. Maintain sufficient reserves in the university's fund balance.

7. Promote awareness among clientele, potential clientele, potential donors, and other constituencies about activities and their impact.

Goal 5: Ensure accountability and continuous improvement of programs and services by implementing a comprehensive institutional assessment system with a planning and budgeting model.

Objectives:

1. Establish an office of academic assessment and accountability.
2. Integrate assessment plan and activities into an effective assessment system.
3. Apply results generated from assessment data to ensure academic quality improvements at the departmental level.
4. Develop and implement a mechanism for timely response to changing state and federal academic policies.
5. Use resources effectively to meet constituent needs.
6. Implement student evaluations to enhance student achievement.
7. Institutionalize a mechanized, institution-wide data base that empowers managers to make data driven decisions.
8. Implement a cyclical planning, managing, and evaluating system.

ACCREDITATION AND MEMBERSHIPS

University of Arkansas at Pine Bluff is fully accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools. It has program accreditation by the National Association for Schools of Music, American the Home Economics Association, the National Association for the Accreditation of Teacher Education, and the Council of Social Work Education. The institution is a member of the American Council on Education, American Association of Colleges for Teacher Education, National Association of State Universities and Land Grant Colleges and the Association of American Colleges, the National Collegiate Honors Council, the National Association of Fisheries and Wildlife Programs, the American Educational Research Association, the Conference of Southern Graduate Schools, and the Council of Historically Black Graduate Schools.

CHANGES IN UNIVERSITY REGULATIONS

The University reserves the right to change the regulations for admission to, instruction in, and graduation from the University and to change other regulations affecting the student body at any time. New regulations go into force whenever proper authorities determine they are needed and apply both to prospective students and to those matriculating at the time.

Curriculum changes will not affect full-time students who have declared and are pursuing a major. Providing enrollment continues without interruption, these students shall continue to pursue the curriculum as identified in the catalog existent at the time they declared their majors. Changes in state certification requirements and state laws, however, may alter curriculum offerings and requirements for graduation, regardless of when a student entered a given curriculum.

GRADUATE DIVISION PURPOSE

The primary aim of graduate studies is the advanced preparation of students in the fields of Addiction Studies, Agricultural Regulations, Aquaculture/Fisheries, Education, and Computer Technology.

The Division of Graduate Studies and Continuing Education shall be coordinated by the Dean of Graduate Studies and Continuing Education. The Graduate Council has legislative authority for the entire process and shall have designated and specified advisory responsibilities for all graduate programs.

A Master of Science degree in Addiction Studies is offered through the School of Arts and Sciences. This program requires a total of 36 semester credit hours.

A Master of Science Degree in Computer Technology is offered through the School of Arts and Sciences and requires a minimum of 30 semester credit hours.

The Master of Science Degree program in Agricultural Regulations is offered by the USDA Regulatory Science Center of Excellence in conjunction with the Department of Agriculture. Established in 1995, the program is designed to prepare students and practitioners to address regulatory issues in agriculture, environmental biology, food safety, and agricultural risk analysis.

The Department of Aquaculture and Fisheries offers post-baccalaureate training for careers in aquaculture (applied fisheries, fish farming and related support industries) and natural fisheries (fisheries science, fish population management and related support areas of study). Students can specialize in the areas of fish health, nutrition, pond and hatchery management, water quality, economics and marketing, stream ecology, larval fish ecology and fisheries management. For the Master of Science degree, a minimum of 34 hours of coursework and a thesis are required. For the Ph.D. degree, students are required to assemble an Advisory Committee, develop a Program of Study (42 minimum credits), write and defend a dissertation proposal, conduct dissertation research, pass a written and oral preliminary examination, and write and defend a dissertation. The course work includes 23 graduate lecture courses, Graduate Seminar, Graduate Research Problems, Special Topics, and Research and Thesis. Offering both aquaculture and fisheries science specializations provides an opportunity for a broader degree program that fits the needs of the state of Arkansas and our students.

The curricula for Master of Education degree include courses in both professional education and subject matter areas. A total of 36 hours of study is required for program completion. The University of Arkansas at Pine Bluff (UAPB) offers the Master of Arts in Teaching and the Master of Education degree in the areas of Early Childhood Education and Secondary Education. In secondary education, there are five cognate areas: Mathematics, Physical Education, Social Studies, English and Science.

GRADUATE ASSISTANTSHIPS

A graduate assistant (GA) performs duties that contribute significantly to their graduate education. Students holding assistantships are considered to be in training, and the graduate assistantship is a form of student support that combines training with financial income. Graduate assistantship appointments are normally funded by individual faculty members or programs through external grant funds, related research or administrative duties associated with the grant. A standard appointment time is one year, which includes 20 hours per week spent on assistantship duties. These expectations will vary depending on the nature of the assistantship. As part of a student's assistantship, the student will receive graduate resident status.

The graduate programs at the University of Arkansas at Pine Bluff provide two types of graduate assistantships: research, teaching, and administrative. Students hired to teach or perform research as part of their educational program, should be hired as graduate assistants within their program of study. Students should not be hired as extra-help (as an hourly employee). Only degree seeking students within a graduate program, such as Ph.D. or Master's degree program, who are admitted with full or provisional status, are eligible to hold graduate assistantships. The Division requires that graduate assistants register for the minimum number of credits for their individual program each semester where the graduate assistantship position is granted.

Types of Assistantships

- Graduate Research Assistantships

A research assistant (RA) conducts research that contributes directly to their graduate education. Supervision is by the professional staff and appropriate research personnel. The activities will develop tangible training that fosters originality, imagination, judgment, and patience; the traits of an independent scholar in their field of study. The expectation of a research assistantship is that the assigned activities eventually lead to a thesis or dissertation topic. Although a research supervisor cannot guarantee that a particular project will be suitable thesis material, the supervisor is expected to offer a professional judgment as to whether the project is suitable, and he or she should offer this judgment to the research assistantship recipient at the start of the position. The final decision on the acceptability of a research topic for the thesis or dissertation will remain with the student's program of study (POS) committee. Because of the widely varying demands of research duties, and because most research projects become part of a student's thesis or dissertation, it is nearly impossible to set a specific workweek. The official university guideline for time spent should be viewed as minimal for a research assistantship.

- Graduate Teaching Assistantships

Graduate teaching assistants (TA) will share a faculty member's responsibility for undergraduate teaching. The TA's teaching load will necessarily vary from program to program, but should be consistent with the teaching load carried by faculty in the department. Since a teaching assistantship is an apprentice position in teaching, the TA should expect careful guidance from the department and faculty. This guidance may take the form of seminars, conferences, observations by experienced teachers, or other

methods designed to develop teaching skills. The official university guideline for time spent should be viewed as maximal for teaching assistantship.

School of Agriculture, Fisheries and Human Sciences

James O. Garner, Dean

**MASTER OF SCIENCE DEGREE PROGRAM
IN
AGRICULTURAL REGULATIONS**

School of Agriculture, Fisheries and Human Sciences
USDA Regulatory Science Center of Excellence
Department of Agriculture
University of Arkansas at Pine Bluff
1200 North University Drive, Mail Slot 4913
Pine Bluff, Arkansas 71601
Telephone: (870) 575.7144

Edmund Buckner, Ph.D.
Director, USDA Regulatory Science Center of Excellence
(870) 575.8537

Muthusamy Manoharan, Ph.D.
Graduate Coordinator
(870) 575.8543

OVERVIEW OF PROGRAM

The Master of Science Degree Program in Agricultural Regulations is offered by the USDA Regulatory Science Center of Excellence in conjunction with the Department of Agriculture. The Agriculture Department is comprised of several undergraduate programs and also houses the Regulatory Science Center of Excellence.

The Regulatory Science Center was established in 1995 by the United States Department of Agriculture Animal and Plant Health Inspection Services – Marketing and Regulatory Programs Division. The Regulatory Science Center functions in a multidisciplinary environment which merges the experience of University faculty and personnel with Federal agencies to educate students, conduct research, and promote outreach programs. The Regulatory Science Center works in conjunction with the Agriculture Department to prepare students and practitioners to address important regulatory issues in agriculture, environmental biology, food safety, and agricultural risk analysis. The efforts of the Regulatory Science Center help provide safe, high quality commodity and food products, healthy work and living conditions and a healthy environment. Faculty members of the Center are also faculty members of the Agriculture Department and have expertise in the fields of agricultural science, regulatory compliance, food safety, biotechnology, natural resource systems, natural resource policy and agricultural economics.

**USDA REGULATORY SCIENCE CENTER OF EXCELLENCE MISSION
STATEMENT**

The Center's mission is to support education, research and understanding in regulatory sciences and risk analysis. The Center also supports a multidisciplinary program designed to prepare students for meaningful careers in agricultural, environmental and food safety regulatory

affairs. The Center utilizes the experience of university faculty and federal agencies in conducting research and outreach education that advances understanding of and compliance with the federal, state and local government statutes. To fulfill this mission the Center:

- Provides seminars and workshops that train students and professionals about regulatory issues related to agriculture
- Obtains internships for students enrolled in the regulatory science program
- Performs risks evaluations and recommend measures to reduce risk
- Works closely with regulatory agencies and private industry to provide regulatory expertise.

RESEARCH

Research is conducted in the areas of agriculture, economics and natural resource management. Particular attention is given to the problems and issues which small and limited-resource farmers in Arkansas face. Researchers also address problems that are both timely and important to the general public at the local, state and national levels. In line with the University's Goals, the Center and the Department "conduct research and scholarly activities that enhance the problem solving capacity of the institution and contributes to expanding knowledge base."

External research grants, USDA Evans – Allen support, and state support provide the financial basis for both the Center and Department of Agriculture's research programs. Research and extension programs are categorized under five (5) goals which include supporting: 1) An agricultural system that is highly competitive in the global economy 2) A safe and secure food and fiber system, 3) A healthy, well-nourished population, 4) An agricultural system which protects natural resources and the environment, and 5) Enhanced economic opportunity and quality of life for Americans.

A 540 square foot distance education/Geographic Information Systems (GIS) laboratory is located in Woodard Hall. Equipment includes twenty-one (21) computers (on-line) for student use and three (3) big-screen, high definition monitors. Identical equipment is located at sites in Altheimer, Lake Village and North Little Rock. These distance education classrooms facilitate course offerings to the above mentioned remote sites. Woodard Hall also includes classrooms and a 54 seat auditorium, conference room and faculty/staff offices.

The University of Arkansas at Pine Bluff has laboratory facilities and equipment that are among the best in Arkansas (i.e. Holiday Hall - Applied Sciences Building). The Applied Sciences building houses the Animal Science/Entomology lab, the Soils lab, the Regulatory Science lab, the Biotechnology lab, and the Plant Science lab. A new Food Safety laboratory/building and additional research labs are located in the S. J. Parker research facility.

ADMISSION PROCESS

Applicants to the Graduate Agricultural Regulations Program must submit a complete set of application materials to the Center for Regulatory Science. All correspondence regarding admissions should be directed to the Graduate Agricultural Regulations Program Coordinator. The application deadline for fall admission is March 15th. The application deadline for spring admission is October 15th. A complete application package should be submitted by the appropriate deadline. A complete application includes the following:

1. Application for Admission to the Graduate Agricultural Regulations Program
2. Non-refundable \$37.00 application fee
3. Three letters of recommendation
4. A 300-500 word statement of purpose
5. Official transcripts from all colleges and universities attended (minimum 2.7 GPA required)
6. Immunization Records (Copy)
7. Official GRE scores (minimum of 1000) from the general GRE test or similar examination
8. Official TOEFL scores (international applicants only).

Applications for admission may be obtained from the UAPB Graduate School or from the Agricultural Regulations Graduate Coordinator. For additional information contact the Graduate Coordinator:

Muthusamy Manoharan, Ph.D.
Associate Professor/ Graduate Program Coordinator
Master's in Agricultural Regulations
Department of Agriculture
144 Woodard Hall
University of Arkansas at Pine Bluff
Pine Bluff, AR 71601
Phone: 870-575-8543
E-mail: manoharanm@uapb.edu

ADMISSION REQUIREMENTS AND STATUS

1. Regular Admission

Admission to the Graduate Agricultural Regulations Program is based upon the complete application package of the applicant and availability of a departmental graduate advisor and departmental resources. During the application review process, applications are routed to the appropriate faculty member(s) for detailed review. Applications with specific research interests (as indicated on the application) are matched to faculty member(s) with corresponding research expertise. Prospective students must hold a four-year baccalaureate degree or higher from a college or university of recognized standing (i.e., degrees from institutions outside the U.S. are evaluated for equivalency to U.S. degrees).

The applicant should possess a cumulative grade-point average of 2.70 (A=4.00) or better on all course work attempted, or 3.20 (A=4.00) on the last 60 semester hours of course work attempted, prior to receipt of a baccalaureate degree from a regionally accredited institution of higher learning. Scores on the Graduate Record Examination, the Miller Analogies Test or a similar test will also be considered in determining the admission status of graduates. The applicant must also be recommended by the chairperson of the department conferring the bachelor's degree or that student's undergraduate advisor.

Students who do not have a course equivalent to Administrative Law and Government Regulations (AGRI 3312) will be required to take this undergraduate course in addition to meeting the coursework requirements of the M.S. degree. After the student is admitted, their graduate committee will evaluate the student's transcript to determine if other undergraduate strengthening courses are needed.

2. International Admission Status

An applicant from a foreign country seeking admission to the Graduate Agricultural Regulations Program must meet the same requirements for regular admission as applicants from the United States. In addition, he or she must demonstrate the ability to read, write, speak and understand the English language. Prospective students whose native language is not English must take the Test of English as a Foreign Language (TOEFL).

3. Provisional Admission

Applicants who appear to meet the admissions requirements but have a baccalaureate degree in a non-natural science field may be accepted on a provisional basis. An applicant who is unable to supply all required documentation prior to the admission deadline but who otherwise appears to meet the admission requirements, with the recommendation of the Graduate Coordinator and approval of the Center Director, may be granted provisional admission. A complete application package must be received by the Center before the end of the semester for which the student has registered in a provisional status. A student will not be permitted to enroll in the Graduate Agricultural Regulations Program with a provisional status for more than one semester. Provisional admission does not guarantee subsequent regular admission. A student admitted on a provisional basis may not hold an assistantship until regular admission status has been achieved. International applicants residing outside of the United States at the time of application may not be admitted on a provisional basis.

4. Probationary Admission

An applicant, who does not meet all the admission requirements but shows promise for successful graduate study and, upon the recommendation of the graduate coordinator and the approval of the Center Director, may be granted probationary admission. Students in probationary admission status must earn a 3.0 grade point average or better their first semester in order to continue in the program. Special course requirements or other conditions may be imposed by the student's graduate committee. A student in probationary admission status may not hold an assistantship or be admitted to candidacy for the Master's degree.

5. Special Students

A person who wishes to take graduate courses in the Agricultural Regulations but who does not plan to pursue a graduate degree may be admitted as a special student with the approval of the Center Director. Admission as a special student will be granted primarily for the purpose of participating in special graduate course offerings, or for taking courses which will be transferred to another institution. Special Student status is not intended for a student who has been denied admission or dismissed from the Graduate School and will not be permitted to enroll as a special student. An applicant for special student admission must submit a completed graduate application, pay the graduate application fee (\$37.00) and indicate that

they desire "Special Student" status. Official transcripts of previous college work showing evidence of an undergraduate degree and, if applicable, other graduate level coursework. Special student admission status is granted for the semester for which the application is submitted. Further enrollment as a special student must be approved on a semester-by-semester basis. Special students may not hold graduate assistantships or enroll in thesis research courses.

A former or currently enrolled special student who wants to apply for regular admission to a graduate degree program must submit a complete Graduate School Application for Admission by the appropriate deadline (with all supporting documents). The application fee may be waived if the applicant has already paid the fee at a prior time. Admission as a special student in no way guarantees subsequent regular admission into the graduate program. Credit earned as a special student may be applied to a degree program only with approval of the student's graduate committee; no more than six semester hours of course work earned as a special student may be applied to a graduate degree in the Agricultural Regulations Program, and only grades of A or B may be so applied, although a grade in any course taken as a special student will be considered in computing the student's graduate grade-point average.

GRADUATE PROGRAM READMISSION

Students who have previously enrolled in the Agricultural Regulations Graduate Program and left for one semester or more must seek readmission to the program. Returning graduate students who have been enrolled in the Agricultural Regulations Graduate Program within the past 12 months must send a letter to the graduate coordinator formally requesting readmission to the graduate program. The student does not have to submit an application for readmission if the student has been enrolled in the program within the past 12 months.

Returning graduate students who have not been enrolled in the Agricultural Regulations Graduate Program for a period of over one year but not more than three years and who are not within one year of the six-year limit on graduate level study must submit the following to the Graduate Coordinator:

1. Application for Admission to the Graduate Agricultural Regulations Program
2. Three letters of recommendation
3. Official transcripts from all colleges and universities attended
4. Official GRE scores from the general GRE test
5. Official TOEFL scores (international applicants only).

Applications for admission may be obtained from the UAPB Graduate School or from the Agricultural Regulations Graduate Coordinator.

TUITION AND FEES

Graduate student tuition and fees are based on factors such as the number of credit hours taken and residency/non-residency in the State of Arkansas. Tuition and fees are established by the university. For current information regarding the cost of tuition and fees, please call the university's admissions office (870.575.8492).

GRADUATE RESEARCH ASSISTANTSHIPS

A one-half time Graduate Research Assistant is required to spend a minimum of 20 hours per week fulfilling the assigned research responsibilities associated with the stipend. These duties may be independent of research activities that contribute to the requirements of the degree program. Research assistantships are typically awarded for two years; however assistantships may be awarded for a maximum of three years in non-typical situations. Research assistantships may be funded through Center funds or research or teaching grants secured by individual faculty members. Funding opportunities should be discussed with prospective graduate advisors prior to enrolling in the graduate program.

The stipend amount for first year graduate students is \$17,800 per year and \$18,800 per year for second –year graduate students. Students receiving stipends are expected to enroll as full-time students. Students are responsible for all tuition and fee payments and may enter into installment payment agreements with UAPB Student Accounts Department.

TRANSFER CREDIT

A maximum of 6 graduate credits may be transferred from other universities with the approval of the student’s advisor, the graduate coordinator and the center director. All transfer credit must be of ‘B’ grade or higher on a four point scale.

If a student desires to take graduate level courses at another accredited U.S. university while enrolled in the Graduate Agricultural Regulations Program at UAPB and have the course credit transferred to UAPB for use in the Graduate Agricultural Regulations Program, the student must have prior approval from their advisor, the Graduate Coordinator and the Center Director. A maximum of 6 graduate credits may be transferred and all transfer credit must be of ‘B’ grade or higher on a four point scale.

ENROLLMENT IN GRADUATE CLASSES

Students who have not been admitted to the Graduate Agricultural Regulations Program (including undergraduate students) may only enroll in course offerings with the approval of the center director and the course instructor. Graduate courses cannot be used to simultaneously fill both graduate and undergraduate level requirements.

GRADUATE STUDENT LOAD

A full-time graduate student course load at UAPB is six credit hours during the fall and spring semesters and two credit hours during the summer term. A full-time graduate student’s course load may not exceed 15 credit hours during the spring and fall semesters and eight credit hours during the summer term. Students must be enrolled full-time to be eligible for assistantships. Students who are not on assistantships and are finishing their thesis projects may maintain their graduate status by registering for one credit hour.

AUDITING

An auditor is a student attending class as a non-participant. Auditors are not required to submit papers, take examinations or meet other requirements for credit audited. Auditors pay the regular student fee (no academic credit is awarded). Students registering for ‘Audit’ must indicate so during the registration period.

ADVISORY COMMITTEE

Advisory committees of graduate students enrolled in the Graduate Agricultural Regulations Program must consist of at least three UAPB faculty members with graduate faculty status and be chaired or co-chaired by a UAPB faculty member with graduate faculty status. Committee members participating above this number are considered additional committee members. Committee membership must be approved by the Graduate Coordinator, Center Director and SAFHS Dean. Retired and/or emeritus UAPB faculty who have an association with the Agriculture Department or Regulatory Science Center may serve on advisory committees, upon expressed approval by the Graduate Coordinator, Center Director and SAFHS Dean.

Faculty from other universities and professionals outside of the university system who are not employed by UAPB may serve as additional committee members and co-advisors with the expressed approval of the Graduate Coordinator, Center Director, and SAFHS Dean. They may not serve as the chair of an advisory committee, but may serve as the co-chair. A copy of their CV should be submitted to the graduate coordinator.

A student's graduate advisor may be changed within the first two years of study with the permission of the current advisor, the prospective advisor, the Graduate Coordinator and the Center Director. Changes (additions and deletions) to a graduate committee must be approved by the student's Graduate Committee, the Graduate Coordinator and the Center Director. The make-up of the graduate committee must maintain at least three UAPB faculty members with graduate faculty status and be chaired or co-chaired by a UAPB faculty member with graduate faculty status.

PROGRAM OF STUDY

The program of study is a list of courses and research that constitutes the essential conditions for obtaining a master's degree in Agricultural Regulations. Each student, in consultation with their advisory committee, formulates a program of study based on the guidelines established by the UAPB Graduate Catalog and recommendations from their advisory committee. All the courses listed on the program of study must be successfully completed to graduate and obtain the master's degree. The master's degree in Agricultural Regulations consists of 31 semester hours (twenty-four (25) credits in coursework and six (6) credits in research and thesis). All requirements for the degree must be completed within six (6) years.

The student will complete a core of regulatory science courses (19 credits) and select, with the approval of his/her graduate committee, other graduate courses that meet the student's career goals.

PROGRAM OF STUDY COMMITTEE MEETINGS

Students are required to have a program of study committee meeting before the end of their first semester. Students are strongly encouraged to schedule at least one or more committee meetings during their enrolment in the program.

REGISTRATION STATUS OF STUDENTS

Students who receive assistantships should be enrolled (registered full time) until all of the requirements of the program of study are fulfilled or until graduation (whichever occurs first). When a student completes all course requirements listed on the program of study but is yet to complete the thesis requirement, the student may register for at least one credit hour (research and thesis or any other graduate level course). If the student is not registered at any time during the regular semesters (fall, spring, summer), the student will be considered to have withdrawn from the program and cannot graduate until readmitted (see 'Withdrawal' and 'Readmission' sections).

GRADES

Grades of A, B, C, D, F, I, P, R, W and AUD are used in the grading system and possess the following meanings and grade points per hour: A – Excellent (4), B – Good (3), C – Fair (2), D – Failure and Poor (1), F – Failure and Extremely Poor (0), I – Incomplete, P – Pass, R – Repeat, W – Withdraw, and AUD – Audit. Except in the case of Thesis Research, an incomplete grade not removed within one semester will be recorded as an 'F'. A summer session counts as a semester. Grade points per hour along with the number of successfully completed credit hours are used to calculate the student's cumulative grade point average.

A student who drops an individual course will receive a grade of W in the course. The final date for dropping individual courses is listed in the course schedule booklet each semester. A student withdrawing from a course must have the written permission of the Graduate Advisor and the Center Director.

ACADEMIC PROGRESS, PROBATION, AND DISMISSAL

The student must maintain a grade point average of 3.0 on a 4.0 grade scale during their academic tenure in the Graduate Agricultural Regulations Program. In the event that the student's grade point average falls below a 3.0, the student will be placed on academic probation during the following semester. If at the end of the following probationary semester, the student's grade point average is still below a 3.0 they will be dismissed from the Graduate Agricultural Regulations Program. The dismissal may be appealed to the advisory committee, Graduate Coordinator and the Center Director.

NON-ACADEMIC GRIEVANCES

A student may have a grievance against an instructor which goes beyond a dispute over the grades received in a course. Such grievances might involve allegations that the instructor is harassing students, practicing extortion, not meeting his/her classes, or is generally incompetent. For such non-grade oriented grievances, the following procedure should be followed until the problem is resolved. These steps must be followed in order and appropriate documentation of each step (including notation of the date, time, location, length, content and final outcome of the discussion) must be provided in order to proceed to the next step.

1. The student should make the grievance known to his/her Instructor.

2. If the grievance is not resolved in step one, the student should request a meeting with the Center Director. The instructor will not be present at this meeting, but a follow up meeting will be scheduled with the instructor and the Center Director.
3. If the grievance is not resolved in step two, the student should request a meeting with the dean of the school offering the course. The instructor of the course and the Center Director will also be present at this meeting.
4. If the grievance is not resolved in step three, the student should request a meeting with the Vice Chancellor for Academic Affairs. The dean of the school offering the course will also be present at this meeting. The Vice Chancellor for Academic Affairs will schedule a follow up meeting with the instructor, the Center Director, and the Dean of the school offering the course.
5. If the grievance is not resolved in step four, the student should request a meeting with the Chancellor. The Vice Chancellor for Academic Affairs will also attend this meeting. The Chancellor will schedule a follow up meeting with the instructor, the center director, the instructor's dean and the Vice Chancellor for Academic Affairs. The Chancellor also has the option of empowering a panel of professors (preferably with graduate teaching status) to review the allegations made by the student, render a judgment, and recommend an action for the Chancellor to implement. The decision of the Chancellor will be final.

WITHDRAWAL

Students who fail to enroll (register) for any of the regular semesters (fall, spring, summer) will be considered to have withdrawn from the program. Students who fail to attend classes without submitting written notice of withdrawal will automatically receive a 'W' in all courses in which they are enrolled.

Students may voluntarily withdraw from the Graduate Agricultural Regulations Program by submitting written notice to both the Center Director and the University at least two weeks prior to the start of final examinations for any of the regular semesters. The student must also:

1. Secure a withdrawal slip from Admissions and Academic Records Office
2. Secure approval from the center director, dean of the college, and the Vice Chancellor for Academic Affairs (all should sign the withdrawal slip)
3. Secure clearance from the Student Accounts Office
4. Return the approved slip to the Admissions and Academic Records Office

ACADEMIC DISHONESTY

Academic dishonesty involves acts which may subvert or compromise the integrity of the educational process at the University of Arkansas at Pine Bluff. For details on academic dishonesty in graduate programs, please refer to Section II (2.6) of Graduate Handbook.

THESIS PROPOSAL

All students enrolled in the Graduate Agricultural Regulations Program are required to prepare a thesis involving original research during their tenure in the program. A thesis proposal should be developed prior to the initiation of thesis research and submitted to their committee members for

approval before end of their second full semester of enrollment. The proposal must include an Introduction, Literature Review, Methods, Results, Discussion and References section. The style of the thesis proposal will follow the ‘manuscript preparation’ guidelines for the Journal of Soil and Water Conservation, the Journal of Food, Agriculture & Environment, the HortScience, the Plant Physiology, the Journal of the Society of Wetland Scientists, the Journal of Environmental Economics and Management or similar agreed upon journal.

PETITION TO GRADUATE

Students should petition for graduation with the registrar at the beginning of the semester they intend to graduate. Students and their advisors should ensure that all the courses listed of programs of study have been taken and, if necessary, submit substitution forms if changes need to be made. During the final semester, students must take final examinations early (see the schedule for graduating seniors prepared by the registrar’s office) and instructors must submit final grades according to the same schedule. A minimum of 31 credit hours is required in a six (6) year time period. The student must have at least a 3.0 cumulative grade point average to graduate.

PREPARATION OF THE THESIS

Students will complete a research project under the supervision of their faculty. This work must be written as a master’s thesis. There are specific deadlines each semester for ‘Intent to Submit’ the thesis, and for ‘Final Submission’ of the thesis the latter of which usually occurs two weeks before the last day of the semester. Failure to meet the ‘Final Submission’ deadline will delay graduation by a semester. Check with your advisor for the date of the appropriate deadline. The student should follow the specified outline in the ‘Agriculture Department Thesis Preparation Guidelines’. The style and format for the thesis must follow the ‘manuscript preparation’ guidelines for the Journal of Soil and Water Conservation, the Journal of Food, Agriculture & Environment, the HortScience, the Plant Physiology, the Journal of the Society of Wetland Scientists, the Journal of Environmental Economics and Management or similar agreed upon journal. If the specified format is not covered by the manuscript preparation instructions, students must follow the style and conventions offered in the CBE Style Manuel (Council of Biological Editors, Chicago).

THESIS SEMINAR PRESENTATION, DEFENSE, AND SUBMISSION

All students planning to defend their thesis will have an advisory committee meeting to determine if research is sufficient, all courses on the plan of study have been taken, and the thesis draft is in satisfactory condition for defense. The advisory committee also shall serve as the thesis defense committee. The entire advisory committee must be given sufficient time to review and approve the thesis for defense prior to scheduling the defense. The thesis will be proof read by each advisory committee member. The thesis will be presented to the public in a seminar format with the aid of visuals such as Microsoft PowerPoint. The thesis seminar and defense must be scheduled and advertised **two weeks** before the intended presentation date. The student will give a 30 minute overview of their research and results followed by audience questions. The seminar (presentation and questions) will last no longer than one hour. Immediately following the seminar, the student and advisory committee will meet for the thesis defense. Upon completion of the thesis defense, the student will be excused while the advisory committee determines the outcome of the defense (Pass or Fail). Passing the thesis defense requires

unanimous committee agreement. The advisory committee may elect to pass a student with conditions such as recommending minor changes to their thesis. The student will be notified immediately following the thesis defense of their success or failure and the changes that must be made before the thesis will be given final written approval by the committee. The chair of the student's advisory committee will provide written notification of the defense outcome to the student and the Graduate Coordinator. In the event that the student fails the thesis defense, the student may elect to defend a second and final time at least 30 days after the initial thesis defense. In the event that the student fails the second defense, the student will be dismissed from the program.

Signatures of the advisory committee, Graduate Coordinator and Center Director are required on the signature page of the thesis. These signatures indicate that all proposed research is satisfactory and all suggested changes have been satisfied and that the thesis is complete.

Copies of the thesis must be prepared on 25% cotton bond paper and submitted to the main campus library no later than two weeks prior to graduation. The library will ensure that the paper is the correct bond, the photographs are attached properly, and will submit the copies to the binder. One bound copy is for the student, one copy each for the advisor and other committee members, two copies are for the library and two copies are for the center. The cost for thesis reproduction is the responsibility of the student. The cost for binding is the responsibility of the library. A PDF copy of the thesis must also be deposited with the Graduate Coordinator.

GRADUATE COURSE OFFERINGS

GAGRI 6001/6002/6003 (0 credit hour): Agricultural and Environmental Regulatory Practices Seminar:

This course is designed to provide students a forum to observe graduate research project presentations and to provide an opportunity for faculty and agricultural professionals to present seminars relative to issues in *biosecurity* agricultural and environmental regulatory affairs. All graduate students are required to take this course each semester that they are enrolled in the graduate program except their final semester. During the student's final semester they will enroll in GAGRI 6101 and present their research project. Sequential course numbers are used to correspond with each semester that the student is enrolled in the graduate program.

GAGRI 6101 Agricultural and Environmental Regulatory Practices Seminar (1 credit hour):

This course is designed to provide students a forum for presentation of their graduate research project and to provide an opportunity for faculty and agricultural professionals to present seminars relative to issues in agricultural and environmental regulatory affairs. All graduate students are required to take this course during their final semester of enrollment in the graduate program.

GAGRI 6102 Ethical Concepts (1 credit hour):

This course will provide students an understanding of best practices for responding to ethical issues that an agricultural professional is likely to encounter in real world situations, and a forum in which students will identify and develop positions on key ethical agricultural issues. The course will also provide students a framework for making ethical judgments in difficult situations and determine how to act on those judgments. Finally, the course will analyze the means by which one can influence and lead others to act ethically in challenging situations.

GAGRI 6280 Scientific Writing and Editing in Agriculture (2 credit hours):

This writing course is designed for graduate students in agricultural regulations, the sciences and natural resources disciplines who are ready to begin, or who are currently working on a master's thesis. The course assumes that writing is inseparable from thinking, and that writing is a process that benefits from collaboration with peers and with mentors. Students will learn to use writing to help develop their thinking as a scientist, understand how to organize and compose the major scientific writing genres, identify the various scientific article genres and their function in the academic community, identify a well-conceived rationale, purpose, organization, focus and conclusion, understand what makes an effective oral presentation and be able to present their work accordingly as well as to relate their presentations to specific audience needs.

GAGRI 5306 (3 credit hours): Geographic Information Systems and Water Management:

This course introduces students to the application of geographic information systems (GIS) including cartography, data structure, map overlays, and spatial analysis. This course approaches GIS in the context of environmental issues relating hydrology and watershed management, soil science, land-use planning, and conservation. Both field activities and GIS and GPS software/hardware are incorporated into course experiences. After successfully completing this class, students will be able to describe what GIS is and several ways that it may be used as a tool

in agriculture and resource management; enter data into ArcView and describe the primary GIS data types and sources; describe how GIS is used in the context of watershed management; analyze and query data in ArcView; present results of analysis using the ArcView software; and create a GIS database.

GAGRI 5400 Molecular Biology (4 credit hours):

Molecular biology provides an overview of basic molecular process and recombinant DNA technologies that play an important role in forensics, therapeutics, drug discovery and agriculture. This includes: structure and function of DNA, RNA and proteins; DNA replication and repair processes; RNA synthesis and processing; protein synthesis and regulations; and basic recombinant DNA technology.

GAGRI 6408 Post-Harvest Physiology (3 credit hours):

This course will provide a fundamental understanding of post-harvest physiology, handling and technology. The aim of the course is to provide a basic understanding of structure, physiology and biochemistry of horticultural produce in relation to post harvest handling and storage. The importance of pre-harvest factors and genetic material, as well as environmental conditions and handling during distribution and storage periods is considered.

GAGRI 6369 Principles of Pest Management (3 credit hours):

Students will be exposed to concepts and principles underlying the development of pest management systems. Pest population dynamics, economic and action thresholds, control methods and their environmental impacts, governmental restrictions and their development, and ethical and moral considerations will be discussed. A historical and practical justification of pest management will be developed and related to the presentation of current pest management systems.

GAGRI 6320 Food Safety (3 credit hours):

This course provides a comprehensive application of up-to-date topics in food science technology and safety. This course covers the interdisciplinary nature of food science, including biology, engineering, chemistry, microbiology, nutrition and physics, in all major food commodities. This course helps students apply their knowledge of contributory sciences to thinking critically about core topics in food science, technology and safety.

GAGRI 6420 Food Microbiology (4 credit hours):

This course provides an overview of the role of microorganisms in food spoilage, food safety, food processing, food preservation, food borne illness, and food intoxication. This course is meant as a basic laboratory course in food microbiology and safety.

GMTH 5345 Probability and Statistics (3 credit hours):

This course will cover the more widely used statistical methods, including simple and multiple regression, single factor and multifactor analysis of variance, multiple comparisons, goodness of fit tests, contingency tables, nonparametric procedures, and power of tests. At least one major statistical package will be used to aid statistical calculations.

GAGRI 6342 Risk Analysis (3 credit hours):

This is an introductory course in risk analysis, with applications to *biosecurity*, agricultural, environmental health, and technological problems. Mathematical and statistical topics covered include flow models, lognormal and other distributions, Monte Carlo methods, Bayesian estimates, basic toxicological models, and basic epidemiological models. Applications will apply to carcinogens and other toxic substances. Other topics such as event trees, fault trees, risk perception and risk communication will be addressed.

GAGRI 6345 Ecological Economics (3 credit hours):

The application of economic analysis to problems of resource depletion and environmental pollution. Fundamental questions will be addressed. Does economic growth imply environmental destruction? What are optimal levels of pollution control and energy conservation? What policy options exist for achieving these goals? Should the government sell permits to pollute, tax polluters, or impose direct legal restrictions on the quantities of pollutants? What are the effects of market structure and uncertainty on the rate of resource depletion?

GAGRI 6350 Agricultural Law and Regulatory Practices (3 credit hours):

This course includes a survey of current and emerging policies and policy issues that regulate agricultural producers, agri-business firms, and other related sectors. The course will address a variety of issues including the history and objectives of agricultural policy, land use planning for agricultural activities, resource use and allocation, industrialization in the agricultural sector, intergenerational transfers of farm businesses, international trade, *biosecurity* and ethical issues that confront the agricultural sector.

GAGRI 6369 Environmental Policy Analysis (3 credit hours):

This course provides students with economic tools and techniques for use in analyzing natural resource and environmental policy issues. This course involves an intensive exploration of the environmental policy process and its conceptual framework. Recognizing and defining natural resource or environmental problems in issues; aggregating interests; agenda-setting; formulating and selecting alternative solutions; implementation and evaluation stages; and the roles of lobbyists, legislature, executive branch, and other actors will be explored. Case studies, presentations by and discussions with local and regional legislators appearing as guest lecturers are a primary component of the course.

GAGRI 6398 Animal Health Issues and Epidemiology (3 credit hours):

This course helps students to develop an understanding of general principles of health and the prevention of disease in farm animals. The application of epidemiologic procedures to the understanding of the occurrence and control of infections and chronic diseases in general is also covered. Students will become familiar with examples of causative agents of infections and zoonotic diseases, including viruses, bacteria and parasites; recognize and describe a variety of non-infectious diseases and develop a basic understanding of surveillance for an analysis of emerging animal health issues; learn about specific methods and techniques for surveillance and analysis of emerging animal health issues; explore the design and implement a system for identification and assessment of emerging animal health issues; practice interpretation and assessment of emerging animal health issues; foster their ability to recognize and create rational

arguments regarding animal health issues through discussion and written assignments; and learn to discuss practical social, economic and legal issues that relate to animal health issues.

GAGRI 6301 Environmental Soil Chemistry (3 credit hours):

This course will provide a better understanding of reactions and processes controlling toxicity of contaminants in the soil. There are growing concerns about organic and inorganic contamination of important resources and potential ecological and human health risks. Knowledge of environmental soil chemistry is important in understanding the fate, mobility and potential toxicity of contaminants in the environment. Upon completion of this course, students will be able to predict the fate and toxicity of contaminants and to develop sound and cost-effective remediation strategies.

GAGRI 6100, 6103, 6104, 6105, 6106, 6107 Research/Thesis (1 credit hour)

GAGRI 6200, 6201, 6202 Research/Thesis (2 credit hours)

GAGRI 6302, 6303 Research/Thesis (3 credit hours)

GAGRI 6401 Research/Thesis (4 credit hours)

GAGRI 6501 Research/Thesis (5 credit hours)

GAGRI 6601 Research/Thesis (6 credit hours)

Graduate students pursuing a master's degree with a thesis option will complete a graduate research project under the supervision of a major advisor and a graduate faculty committee. The advisor and/or committee will decide upon the amount of research/thesis credit that the student will register for each semester in conjunction with the student's graduate research project and thesis work load. *This course will be offered every semester.*



**MASTER OF SCIENCE & DOCTOR OF PHILOSOPHY DEGREES IN
AQUACULTURE/FISHERIES**

**School Of Agriculture, Fisheries, and Human Sciences
Department of Aquaculture and Fisheries
University of Arkansas at Pine Bluff
1200 N. University, Mail Slot 4912
Pine Bluff, Arkansas 71601
Telephone: (870) 575-8529
Website: www.uaex.edu/aqfi**

**Carole Engle, Ph.D.
Chairperson
(870) 575-8523**

**Anita Kelly, Ph.D.
Graduate Coordinator
(870) 575-8523**

Please note: For further information and guidelines, Ph.D. students are asked to reference the Department of Aquaculture/Fisheries Graduate Students Orientation Guide, 2013

OVERVIEW OF PROGRAM

The Aquaculture/Fisheries Center at the University of Arkansas at Pine Bluff (UAPB) was created in 1988. It combines resident instruction, research and extension responsibilities into one comprehensive unit. Currently, the Center has a total of 47 faculty and staff including 16 Ph.D. scientists, 15 M.S., 10 B.S.-level staff and 4 secretarial and maintenance personnel. The research component of the Aquaculture/Fisheries Center is supported by a 113-pond earthen pond facility that also includes a 40-pool unit. The 5,400 sq. ft. hatchery houses holding, spawning, and experimental tanks along with a small recirculating culture system. Additional buildings provide storage areas for feed, chemicals, tools and seines. A research and demonstration building for value-added product development provides opportunities to measure dressout yield of fish in production studies and develop new value-added products from aquaculture.

The S. J. Parker Agricultural Research Center building provides laboratory space that includes a 1,300 sq. ft. wet laboratory for aquarium studies, a water quality laboratory, and a 1,000 sq. ft. nutrition laboratory. The 1890 Extension building houses the state-of-the-art fish health diagnostics laboratory that is fully equipped to conduct microbiological, viral, and histopathological analyses of fish. The Aquaculture Equipment Development Building provides facilities for equipment, research, and development. The Hatchery Development and Research Building was completed in 2005 for hatchery fish and water quality. It is divided into two dry labs and two wet labs that can be combined or separated with independent temperature/light control.

The Fish Shop, the Applied Sciences Building, and the Boat Storage Facility provides approximately 7,000 sq. ft. of laboratory, wet-lab, offices, and equipment storage for natural fisheries research. This research program has available 3 electrofishing boats, 3 backpack shockers, 4 aluminum boats ranging in size from 14 to 18 ft., outboard motors from 7.5 hp to 40 hp, a state-of-the art fish aging laboratory, and additional equipment (standard nets, seines, trawls, and traps) and supplies necessary to support recreational fisheries research needs of Arkansas' Delta Region.

Aquaculture research conducted at UAPB focuses primarily on pond and hatchery production technologies, fish nutrition, water quality, fish health, and economics and marketing of aquaculture products. Much of the work is devoted to catfish and bait minnows. UAPB aquaculture researchers have developed new fish spawning and hatching technologies that dramatically improve hatch rates and survival, lower production costs, and reduces groundwater usage. The UAPB fish nutrition program has developed new feed formulations that lower costs of production and improve growth and feed conversion. New catfish farming equipment developed and patented at UAPB reduces harvesting labor, removes undersized fish from harvesting nets and effectively sorts other species from catfish. UAPB research develops guidelines that help farmers select the most efficient and profitable management strategies. Water quality research has focused on the effects of filter-feeding fish in catfish ponds and the effects of aerial applications of common herbicides on pond plankton populations and water quality.

UAPB natural fisheries research is focused on improving recreational fishing in Arkansas' Delta Region (Mississippi River alluvial plain). Research includes: evaluating stocking success of largemouth bass and crappie in rivers, oxbow lakes, and reservoirs; identification of appropriate species, impacts of stocking programs, and management options in farm pond; program evaluations of community fishing programs; and studies that are designed to gain a better understanding of floodplain river ecosystem function and its importance for maintaining and enhancing fisheries resources.

Aquaculture Extension programming in Arkansas is administered through the Aquaculture/Fisheries Center at UAPB. Seven Extension Fisheries Specialists, and three Extension Associates are located in Lonoke, Pine Bluff, Lake Village, and Newport, Arkansas, to provide assistance to the aquaculture industry. Disease and water quality diagnostic support is provided through four laboratories in Lonoke, Lake Village, and Newport, Arkansas, and the 1200 sq. ft. diagnostics laboratory on the UAPB campus. Extension efforts have included intensive in-service training of county agents in catfish production, producer workshops, problem solving, publication of the quarterly newsletter *Arkansas Aquafarming*, bilingual farm labor training, farm demonstrations, an innovative Catfish Research Verification Program, farm pond management, and a Fish Farm Safety Program.

The aquaculture industry in Arkansas supports the Aquaculture/Fisheries Center with financial support, in-kind contributions and through participation in the National Fisheries Advisory Council to the Center. The Advisory Council provides overall guidance in terms of research priorities. The NAA (National Aquaculture Association) moved its office to the UAPB campus in 2008.

The Department of Aquaculture and Fisheries offers post-baccalaureate training for careers in aquaculture (applied fisheries, fish farming and related support industries) and natural fisheries (fisheries science, fish population management and related support areas of study). The course work includes 23 graduate lecture courses, Graduate Seminar, Graduate Research Problems, Special Topics, and Research and Thesis. Offering both aquaculture and fisheries science specializations provides an opportunity for a broader degree program that fits the needs of the state of Arkansas and our students.

ADMISSION PROCESS

All prospective students must submit a complete set of application materials to the Department of Aquaculture and Fisheries. All correspondence regarding admission should be directed to the Aquaculture and Fisheries Graduate Coordinator. The set of application materials for Master of Science student includes:

1. Application for Admission to the Aquaculture/Fisheries Degree Program (Form # 01)
2. Application for Admission (Form #00)
3. Three letters of recommendation (Form # 02)
4. Official transcripts from all schools attended beyond high school
5. Official TOEFL paper score of 550 (213 on computer version, 79 on the internet version) or 6.5 on the IELTS (International students). International applicants who hold degrees or diplomas in a related subject from post-secondary institutions in English-speaking countries (e.g. the United States, Canada, England, Ireland, Australia, New Zealand) or who have successfully completed at least a two year post-secondary course of study in which English was the language of instruction are not required to submit TOEFL or IELTS scores.
6. Official GRE scores
7. Copy of Immunization Records, including MMR. International applicants also need TB test results (MMR and TB tests can be obtained on site).
8. Non-refundable application fee of \$37 (checks should be made out to the University of Arkansas at Pine Bluff)

Ph.D. Students: In addition to the requirements listed above, Ph.D. applicants must have M.S. degree from an accredited institution of higher education in an aquaculture, fisheries, agriculture, natural resources, or related scientific discipline.

The applications for admission and the recommendation forms are available on the departmental web site www.uaex.edu/aqfi/grad/. For additional information contact the Graduate Coordinator:

Anita M. Kelly, Ph.D.
Extension Aquaculture Specialist/Graduate Coordinator
University of Arkansas at Pine Bluff
Box 4912
Pine Bluff, AR 71601
(870) 575-8145, fax (870) 575-4639
akelly@uaex.edu

APPLICATION DEADLINES

Application deadlines for admission to the Master of Science degree program are: June 20 for Fall Semester, November 10 for Spring Semester, and March 10 for Summer Session I.

Application deadlines for international students are: June 1 for the Fall Semester, and October 1 for Spring Semester, and April 1 for the Summer Session.

ADMISSION REQUIREMENTS AND STUDENT CLASSIFICATION

No student will be admitted under any condition unless a faculty member agrees to serve as the student's advisor. During the application process, the applicant indicates a preferred area of specialization that is referred to the appropriate faculty member for review. This requirement ensures that adequate research facilities and funding will be available upon admission for the student's thesis work.

REGULAR ADMISSION

To be admitted as a regular M.S student, applicants must have earned a baccalaureate degree in a natural science field from an accredited institution and have scored above 550 on the TOEFL paper version (213 on the computer version, 79 on the internet version), or 6.5 on IELTS (for international students, if applicable). Applicants must have scored at least 900 (tests scores prior to Nov 1, 2011) or 291 (tests scores after Nov 1, 2011) on the GRE (Quantitative & Verbal) with a grade point average during the Junior and Senior years of 3.5 or better, or have scored at least 1000 (tests scores prior to Nov 1, 2011) or 297 (tests scores after Nov 1, 2011) on the GRE with a grade point average during the Junior and Senior years of 3.0 or better.

To be admitted as a regular PhD student, applicants must have earned a masters degree in a natural science field from an accredited institution and have scored above 550 on the TOEFL paper version (213 on the computer version, 79 on the internet version), or 6.5 on IELTS (for international students, if applicable). Applicants must have scored at least 1000 (tests scores prior to Nov 1, 2011) or 297 (tests scores after Nov 1, 2011) on the GRE (Quantitative & Verbal) and had a grade point average of 3.0 or better.

PROVISIONAL ADMISSION

Applicants who meet the GRE and grade point average requirements but have a baccalaureate or master's degree from an accredited institution in a non-natural science field may be accepted as a provisional student. Provisional students must make up deficiencies through undergraduate course work that will not count for credit toward a degree. The specific course work will be determined by the graduate coordinator, the student's advisor, and the department chair.

CONDITIONAL ADMISSION

Students with a baccalaureate degree or a master's degree in a natural science field from an accredited institution who do not meet the GRE and/or grade point average requirements may be accepted as conditional students. Conditional acceptance is granted only at the chair's discretion and is usually reserved for individuals with extensive work experience in the field. Conditional students must earn a GPA of 3.0 or better during their first semester to continue in the program.

RESEARCH ASSISTANTSHIPS

Research assistantships are frequently awarded for a maximum of 2.5 years for Masters degree students and for longer periods to PhD students. Research assistantships are funded through research grants to individual faculty members and funding possibilities should be discussed with prospective advisors. For PhD students, teaching assistantships are also available. The assistantship for a first-year Masters student is \$17,800 per annum and second-year Masters student is \$18,800 per annum. For Doctoral students the stipend is \$20,739 per annum and \$22,739 per annum after successful completion of the preliminary examination. Students receiving assistantships are expected to work 20 hours per week and to be enrolled as a full-time student. Students are responsible for all tuition and fee payments. In addition, international students are required to use and pay for international health insurance and to submit the International Students Fee.

TRANSFER OF CREDIT

Subject to the approval of the student's advisor, the graduate coordinator, and the department chair, a student may transfer up to 8 semester hours of credit from graduate courses taken elsewhere with a "B" grade or above (Form #03) toward the M.S. at UAPB. While in the M.S. program at UAPB, requests for course work to be taken at another institution for transfer must have the advance approval of the student's advisor, the graduate coordinator, and the department chair. Only course work with "B" or better grades earned at an accredited graduate school and acceptable toward a graduate degree at that institution will be considered for transfer. No course work taken by correspondence will be considered.

SPECIFIC DEGREE REQUIREMENTS

Masters students in the Department of Aquaculture and Fisheries are required to assemble an Advisory Committee, develop a Program of Study (34 minimum credits), write and defend a thesis proposal, conduct thesis research, pass a Comprehensive Examination, and write and defend a thesis.

PhD students in the Department of Aquaculture and Fisheries are required to assemble an Advisory Committee, develop a Program of Study (42 minimum credits), write and defend a dissertation proposal, conduct dissertation research, pass a written and oral preliminary examination, and write and defend a dissertation.

GRADUATE STUDENT LOAD

A full-time graduate student load is 6 credit hours during a regular semester and 2 credit hours during the summer term. A full-time graduate student's load may not exceed 15 credit hours per regular semester, including any undergraduate courses. A full-time student's load may not exceed 8 credit hours during the summer term. Students who wish to enroll in a course at another campus must file a concurrent enrollment form, signed by their major advisor, graduate coordinator, department chair and dean, with the Registrar prior to enrolling on another campus. There is a separate concurrent enrollment form to be filed by international students with the Office of International Studies. Students who are not enrolled full-time are not eligible for graduate assistantships. Students not on assistantships and finishing their thesis may maintain graduate status with 1 credit. International students will need to contact the Office of

International Studies for a course reduction form and will need a letter from their advisor to maintain graduate status with 1 credit.

PROGRAM CURRICULUM AND NEW COURSE DESCRIPTIONS:

Ph.D. students will be expected to develop in-depth, comprehensive knowledge in a specific core content area. However, students will also be expected to develop basic familiarity with the principles of areas related to their core content area. Table 2 presents a listing of the core and related areas. The common portion of the written preliminary examination will test for this basic familiarity with principles in all areas, while the remaining portion of the written component and the oral examination will focus on the specific core content area of each student, as identified by the student's committee. Each student will develop a program of study that will ensure an adequate mix of coursework and activities that will prepare the student to be successful in their preliminary examinations and to be able to teach an undergraduate course in the core and related areas. A course in research ethics will be required for all Ph.D. graduates. Several options are available at UAMS.

Curriculum Outline

Courses Currently Available. Content areas currently available at the graduate level include: water quality, fish nutrition, fish health, aquaculture production, economics and marketing, aquatic animal physiology, fisheries management, population dynamics, statistics, stream and fish ecology, and research methods. Syllabi are included in Appendix C. Specific courses currently offered are listed in Table 3. Course offerings have been expanded gradually over time, both to strengthen the M.S. program, but also to prepare for the Ph.D. program. The courses offered currently cover the basic core of subject matter in the areas of aquaculture and fisheries. These courses include:

GAQF 5300 Research Methods and Scientific Writing 3 Credits (2 hrs. Lecture, 3 hrs. Lab)

The two main objectives of this course are: 1) to familiarize students with planning and execution of scientific experiments and 2) to enable students to convey research results effectively through written communications. Students will learn general principles of scientific writing and how to conduct literature searches. Different formats of written communications pertinent to aquaculturists and fisheries biologists will be examined (e.g. peer-reviewed journal articles, extension and trade publications, government documents). Offered spring semester of every year.

GAQF 5405 Statistics in Research 4 Credits (3hrs. Lecture, 3 hrs. Lab)

This course will cover the fundamentals of basic statistics and analytical techniques that are needed for scientific research data analysis. The statistics taught in this class will range from descriptive statistics, simple t-test, ANOVAs, to linear regression. Theories and applications of statistics will be demonstrated and taught through use of real-world examples. Offered fall semester of every year.

GAQF 5406 Univariate and Multivariate Models in Fisheries Science 4 Credits (3 hrs. Lecture, 3 hrs. Lab)

This course will cover models that are developed to deal with univariate and multivariate data analysis. The statistical modeling techniques taught in this class include multiple regressions, model selection methods, logistic regressions, multivariate ANOVAs, ordinations, and

classification analyses. Theories and application to real-world examples will be used to understand the statistical methods. The laboratory session will focus on the application of the models for specific uses. Offered spring semester of even years.

GAQF 5407 Experimental Design and Analysis 4 Credits (3 hrs. Lecture, 3 hrs. Lab)

The success of research studies starts from good planning of research design. This course addresses the needs of graduate students preparing for a career in agricultural and aquaculture research as professional scientists in the subjects of design, plot layout, analysis and interpretation of laboratory and field experiments. Many numerical examples and problems will be presented, and the recitation through homework assignments will allow students to explore analysis. Laboratories will be devoted to practical applications and exercises. Offered spring semester of odd years.

GAQF 5208 Nonparametric Methods in Data Analysis 2 Credits (2 hrs. Lecture)

Parametric statistics, such as t-test and F-tests, require very rigorous parametric assumptions about the underlying distribution of populations. However, we often deal with data that do not satisfy the restrictive parametric assumptions of sufficient sample size that are crucial for accurate and unbiased statistical inferences. This course will introduce alternative nonparametric statistical methods that can be used in the analysis of data that do not meet parametric statistical assumptions. Offered summer session II of even years.

GAQF 5311 Advanced Aquaculture 3 Credits (3 hrs Lecture)

Students will learn the biological, chemical, and physical bases, determinants and limitations of production systems and major species. Climatic influences will be discussed. Special consideration will be given to species of regional importance and elements of hatchery management and fish genetics. This course is needed by all aquaculturists. Offered spring semester of odd years.

GAQF 5310 Program Evaluation and Survey Methods 3 Credits (3 hrs. Lecture)

This course will cover the fundamentals of program evaluation and survey methodologies. Evaluation models such as systems analysis, behavioral objectives, and goal-free will be studied. The construction, design, and implementation of questionnaires using a sound scientific approach will be covered in depth. Offered spring semester of odd years.

GAQF 5414 Ecology of Fishes 4 Credits (3 hrs Lecture, 3 hrs. Lab)

Students will learn the fundamental concepts of ecology. Students will learn specific life history requisites of native Arkansas fishes and how they interrelate with habitat parameters. Students will also be introduced to simplistic habitat modeling techniques. This course is recommended for students with the goal of working in natural resource management or research. Students should have taken a course in ichthyology that emphasized taxonomy of fishes. Offered spring semester of even years.

GAQF 5315 Extension Methodology 3 Credits (3 hrs. Lecture)

This course will cover the history and mission of the land-grant system with particular emphasis on Extension. Extension community needs assessment, program development, implementation, and evaluation will be covered. Extension methodologies for technology transfer will be covered

in depth. Strongly recommended for all aquaculture/fisheries students. Offered summer of even years.

GAQF 5420 Fish Physiology 4 Credits (3 hrs. Lecture, 3 hrs. Lab)

This course will impart an understanding of the organization of diverse physiological systems that enable fish to flourish in diverse aqueous and marine environments. The course begins with an examination of energy mobilization and a thorough overview of the systems responsible for the maintenance of homeostasis. In the second part of the course sensory biology and the neuroendocrine system are presented to illustrate how environmental signals are integrated and responded to. Finally, examinations of examples of applications of fish physiology to fisheries management and aquaculture will be presented.

GAQF 5220 Engineering and Construction of Aquaculture Facilities I 2 Credits (3 hrs. Lecture, 3 hrs. Lab)

This course will cover site selection and construction of levee and watershed ponds, repairing levees and ponds, cage construction and placement, in-pond raceways, aeration, and pond effluents. Strongly recommended for all aquaculture students. Offered summer semester I of odd years.

GAQF 5221 Engineering and Construction of Aquaculture Facilities II 2 Credits (3 hrs. Lecture, 3 hrs. Lab)

This course will cover degassing mats, pumps, open channel and piping systems, transportation, and management, and components of recirculating aquaculture systems with fish only and with fish integrated with plant production. Offered summer semester II of odd years.

GAQF 5322 Aquaculture Economics 3 Credits (3 hrs Lecture)

Aquaculturists need to be able to develop, interpret, and use results of economic analyses to improve economic and financial performance of aquaculture businesses. The course will cover the application of economics and financial analysis techniques in aquaculture. Enterprise budgets, balance sheets, income statements, cash flow budgets, loan management, risk analysis, and business plan development are included. No prior background in economics and marketing is required. Offered fall semester of odd years.

GAQF 5323 Aquaculture Marketing 3 Credits (3 hrs. Lecture)

Aquaculturists need to understand how to develop a marketing plan and interpret results from marketing research. This course will cover key marketing concepts, functions, channels, and strategies. Examples will be focused on the aquaculture industry. No prior background in economics and marketing required. Offered fall semester of even years.

GAQF 5324 Quantitative Methods in Fisheries and Aquaculture Economics 3 Credits (3 hrs. Lecture)

This course will introduce students to quantitative methods used to: 1) identify consumer preferences; 2) estimate demand for either an aquaculture product or a non-market good or service; 3) willingness-to-pay techniques; 4) contingent valuation; 5) logit analysis; and hedonic analyses. Offered spring semester of even years.

GAQF 5325 Fish Population Dynamics 3 Credits (3 hrs. Lecture)

Students will learn theoretical aspects of population dynamics. The course focuses on the use of standard mathematical models in estimating fish population size, recruitment, production, and yield. Some modeling applications are explored through standard computer software and programming for model derivation and applications. Offered fall semester of even years.

GAQF 5430 Fish Health Protection 4 Credits (3 hrs. Lecture, 3 hrs. Lab)

Fish diseases are a major factor governing the management of natural fisheries and diseases also have a significant impact on commercial aquaculture. In this class, students will learn disease diagnostic techniques from microscopy to PCR, survey the major diseases of wild and cultured fish, and learn about the relationships between fish disease and regulatory actions. Additional lectures will cover shrimp and shellfish diseases. The laboratory portion of the course is conducted in the UAPB Fish Disease Diagnostic Laboratory and requires students to diagnose, document, and report on fish disease cases. Offered spring semester of even years.

GAQF 5435 Management of Small Impoundments 4 Credits (3 hrs. Lecture, 3 hrs. Lab)

Students will learn the principles that govern the management of small impoundments for recreational fishing. Students will learn about species balance, population balance, field techniques to assess balance, and methods to correct unbalanced populations. Labs will be field trips to ponds in Jefferson and adjacent counties to assess the balance of farm ponds; to make recommendations about their balance; and to formulate solutions to unbalanced populations. This course is needed by extension biologists, aquaculturists, and research biologists. Offered spring semester of even years.

GAQF 5336 Aquatic Animal Nutrition 3 Credits (3 hrs. Lecture)

This course covers metabolism and nutritional requirements of fishes and other aquatic animals. Biochemical concepts of nutrient utilization will be discussed. Emphasis is on the differences between nutrient use and requirements of aquatic animals versus terrestrial ones. This course is needed by aquaculture students. Offered fall semester every year.

GAQF 5136 Aquatic Animal Nutrition 1 Credit (3 hrs. Lab)

This course covers laboratory analytical procedures relevant to fish nutrition studies (protein, lipid, dry matter, ash, etc.). Students will also initiate and maintain a group project (usually a feeding trial) to gain practical experience in methods used to determine nutrient requirements or optimal feeding strategies for different fish species. Offered fall semester every year.

GAQF 5441 Aquatic Chemistry and Analysis 4 Credits (3 hrs. Lecture, 3 hrs. Lab)

This course will provide students with an understanding of (a) the fundamental chemical principles affecting water quality in aquatic environments, (b) the biological, chemical and physical processes that affect water quality, (c) skills required to evaluate water quality problems with basic analytical and laboratory skills. Offered fall semester of even years.

GAQF 5445 Stream Ecology 4 Credits (3 hrs. Lecture, 3 hrs. Lab)

Students will learn about the chemical, physical and biotic factors that affect stream organisms and will also learn how aquatic ecosystems function. Stream organisms have developed adaptations to cope with such systems. Stream habitat management, impact assessment, and

habitat modeling will be emphasized. Hydrologic data interpretation will be integrated into field exercises. This course is recommended to acquire an understanding of stream hydrology and dynamics and is necessary for students who embark on careers with regulatory or management functions. Offered fall semester of odd years.

GAQF 5371 Fisheries Management 3 Credits (3 hrs. Lecture)

Students will learn about fish population in streams, reservoirs, lakes and oceans and will also learn techniques and methods to assess and manage these populations. This course is needed by all fisheries biologists. Offered spring semester of odd years.

GAQF 5341 Water Quality Management 3 Credits (3 hrs Lecture)

This course covers the management of water quality in commercial fish ponds, farm ponds, impoundments, and streams. Students will apply water chemistry to management goals for various water bodies. This course is needed by all aquaculture and fisheries scientists.

GAQF 5390-5391 Special Topics 3 Credits

This course is offered as a forum to cover timely and topical issues that affect aquaculture and fisheries as they arise. Examples of such issues include aquatic vegetation, aquatic toxicology, and mathematical programming.

GAQF 5195-5196 Graduate Seminar 1 Credit

Seminars will be presented each week by faculty, staff, students, and guest lecturers. Approaches will include recent perspective and historical overviews as well as critiques of recent research in applied and natural fisheries. Offered spring and fall semesters of every year.

GAQF 5198-5398 Graduate Research Problems 1-3 Credits

This project-oriented course offers advanced studies in aquaculture and fisheries. The course provides the opportunity for students to obtain specialized skills or undertake research in areas outside the scope of the student's thesis research. Class activities are arranged in advance with instructors amenable to supervising this course. The amount of credit offered for this course will vary from 1-3 credit hours and depend upon the scope of the project. Credit offered for the course and scope of the project would be determined prior to registration. A research problems outline approved by the course supervisor, graduate committee, and graduate coordinator must be submitted with the program of study.

GAQF 5129-5999 Research and Thesis 1-9 Credits

New Content Areas and Courses Proposed to be Offered in the Department of Aquaculture and Fisheries.

For the Ph.D. program, several additional new courses will be added to the curriculum to strengthen the overall core of courses that are already available. These new courses will include: population modeling, reservoir fisheries and ecology, reproductive physiology and hatchery applications, genetic principles and applications in fisheries, and a teaching practicum. Descriptions of the new courses to be offered are included below (Table 4).

GAQF 5340 Integrative Fish Hatchery Science 3 Credits (2 hrs Lecture, 3 hrs Lab)

An integration of the concepts of basic biology of aquaculture species and hatchery techniques will be presented. Current finfish hatchery practices will be presented in a physiological context and in a quantitative fashion. Students are expected to develop a skill set that can be applied to the development of new hatchery protocols adapted from active areas of aquaculture research. Offered every other year.

GAQF 5345 Genetic Principles and Applications in Fisheries and Aquaculture 3 Credits (3 hrs Lecture)

The goal of this course is to provide students the tools to understand and evaluate the use of genetic approaches for fisheries management and aquaculture. Chromosomal, biochemical, quantitative and ecological aspects of fish genetics will be presented with emphasis on their application to aquaculture and fish management. This course is needed by all fisheries and aquaculture biologists. Offered every other year.

GAQF 5326 Fisheries Modeling 3 Credits (3 hrs Lecture)

Students will learn to use a variety of statistical models commonly employed in fisheries science and ecology. Both deterministic and stochastic models will be employed that pertain to mainstream concepts in fish population dynamics and ecology. Examples of topics include virtual population analysis, fish bioenergetics, modeling fish-environment relationships, and models used for fish community analyses. Offered fall of odd years. Prerequisites: GAQF 5325, GAQF 5405 (or equivalent statistics course)

GAQF 5335 Reservoir Fisheries and Ecology 3 Credits (3 hrs Lecture)

This course will provide an in-depth look at the limnology, ecology, and management of reservoir systems. Students will learn reservoir physical/chemical properties, processes, and dynamics; trophic aspects; and specialized management issues. Students will be able to compare and contrast reservoir systems with lakes and rivers, and will be expected to present seminar topics to their peers. This course will be needed by all fisheries biologists and will be offered spring of odd years.

GAQF 5336 Ecology of Caribbean Reef Fishes 3 Credits (2 hrs Lecture, 3 hrs Lab)

This course will introduce students to the biology and ecology of Caribbean reef fishes. The course will be needed by fisheries biologists interested in working in marine environments and will be offered every other summer. It will involve three weeks of intensive work in Pine Bluff and two weeks of field work. Students will be required to pay their own expenses for the field work (transportation, room, board, dive fees, and equipment rental) in addition to tuition. Prerequisite: Students must be SCUBA certified prior to the class.

GAQF 5v71-75 and 5v81-85 Teaching/Extension Practicum

Each Ph.D. student is required to take at least 1 hour of this course to gain experience in teaching and/or extension. Students who intend to pursue a career in either a university teaching or extension specialist position may choose to take more hours or take it twice (with a second number). The number of hours taken will be specified in the student's plan of study.

Students in the Ph.D. program in Aquaculture/Fisheries may also take courses outside of the areas of aquaculture and fisheries, to provide additional overall depth. Table 5 lists graduate courses currently offered by other departments at UAPB, and Table 6 lists relevant graduate courses available at the University of Arkansas at Little Rock, the University of Arkansas at Monticello, and the University of Arkansas for Medical Sciences. These campuses are located within 1 hour's drive of UAPB. In addition, the existing Special Topics class provides a mechanism to cover specific study areas of particular interest to students, but not offered as full courses on campus. These may include topics such as population or conservation genetics, bioinformatics, behavioral or stress physiology, physiology of disease, epidemiology, bioenergetics, fatty acid signatures, otolith microchemistry, or isotope analysis.

School of Arts and Sciences

Yolanda Page, Ph.D.
Dean

MASTER OF SCIENCE DEGREE IN ADDICTION STUDIES

**School of Arts and Sciences
Department of Addiction Studies
University of Arkansas at Pine Bluff
1200 N. University, Mail Slot 4903
Pine Bluff, Arkansas 71601
Telephone: (870) 575-8714**

**Dr. Jerry Lewis
Graduate Coordinator/Director
(870) 575-7715**

PROGRAM PURPOSE AND OVERVIEW

The purposes of this program are 1) to increase, in the Arkansas Delta, the number and diversity of professionals in the addiction prevention and treatment (i.e., counseling) field, 2) to link (through classroom instruction and practicum(s)) theory to practice, 3) to provide the knowledge, skills, and attitudes for achieving and maintaining professional competence in substance abuse prevention and treatment (counseling) needed by addiction professionals at different points in their careers; 4) to help students meet some of the educational requirements for state certification in prevention and/or treatment; and 5) to provide community-based outreach education, including emphasis on alcohol, tobacco, and other drug abuse prevention. It meets the professional development needs of health care professionals from a wide range of backgrounds and prepares them for leadership careers in the prevention and treatment (i.e., counseling services) of addictions. Students are prepared to manage addiction facilities are taught knowledge and skills needed to respond to the ever changing needs of their clients.

This program requires a total of 36 semester hours. It emphasizes empirical-based approaches to preventing addiction problems and provides specialist skills related to the theoretical, policy, evaluative, and research frameworks which underlie treatment, intervention, and prevention approaches in the addiction field. It helps student's build upon their theory, research, and policy skills by completing a research course and project. Unconditional admission requires at least a 2.5 undergraduate cumulative grade point average.

ADMISSION REQUIREMENTS

Students are admitted into the Master of Science Degree Program in Addiction Studies with an unconditional admission status. Unconditional admission requires that the applicant:

1. Submits from a regionally accredited college or university an official transcript (mailed directly from the university or college or hand-delivered in a sealed COLLEGE OR UNIVERSITY'S OFFICE OF **ADMISSIONS/REGISTRAR** envelope) that validates a baccalaureate degree in the social or behavioral sciences or a related health field; or a transcript that validates a baccalaureate degree and the completion of at least six undergraduate semester credit hours or their equivalent in counseling, statistics, or health-

- related courses such as anatomy, biology, chemistry, drug abuse, health and safety, nursing, pharmacology, psychology or others with no less than a C in each course;
2. Submits an official transcript that reflects a cumulative GPA of at least 2.50 (a 3.0 in the last 60 semester hours attempted) where a letter grade of “A” equals 4.0.
 3. Submits satisfactory Graduate Record Examination (GRE) scores. The test must have been taken within the past 5 academic years;
 4. Submits from the Test of English as a Foreign Language, a score of 550 or above (paper version) or 213 or above (computer version), if the applicant’s primary language is not English. The test must have been taken within the past 2 academic years;
 5. Composes an essay, one (1) to three (3) pages in length, that includes a discussion on why the applicant is interested in the prevention and/or treatment of alcohol, tobacco, and other drug abuse, and how a master’s degree in addictions studies will impact his or her career or life;
 6. Submits three (3) letters of recommendation (one from a former professor, if possible) that includes a discussion of the candidate’s strengths and weaknesses relative to him or her being a professional in the prevention and/or treatment of addictions field;
 7. Completes an interview with the Program Director and/or Addiction Studies Graduate Admissions Committee;
 8. Writes an onsite summary of a journal article similar to what would be required in Addiction Studies courses;
 9. Submits a current resume or curriculum vitae;
 10. Submits a completed Master of Science Degree in Addictions Studies application.
 11. Submits a completed University of Arkansas at Pine Bluff Graduate Studies application.
 12. Submits, if born after December 31, 1956, an immunization record with proof of two MMR vaccinations (i.e., immunization against measles and rubella, as mandated by Arkansas state law).
 13. Enrolls in only one graduate degree program at a time.

DEFICIENCY REMOVAL PLAN

Students admitted into the program, who earn a letter grade below a B or who have committed an act of academic dishonesty (see page 11) in an Addiction Studies course for any semester in which he or she is/was enrolled, will meet with their Graduate Advisors and/or the Program Director to design a plan to remedy the deficiency. This meeting is to occur prior to the students’ next semester of enrollment. The plan must be approved by the Addiction Studies Graduate

Admission Committee and/or the Program Director. Students who decline to continue in the program under a DRP or who fail to meet the standards established in the DRP will be dismissed from the program. Students should be aware that an act of academic dishonesty could result in students being dismissed from the program whether or not they are willing to agree to a DRP. Students, who are enrolled in the program under a Deficiency Removal Plan, cannot receive any scholarships or stipends from the Addiction Studies Program.

EXIT REQUIREMENTS

To successfully exit the program, students are required to complete all University and Master of Science Degree in Addiction Studies program requirements.

SPECIFIC EXIT REQUIREMENTS:

1. In order to receive the master's degree, a candidate must obtain a minimum cumulative grade point average of 3.0 in all graduate courses required for the degree.
2. Students must complete the requirements for the master's degree in addiction studies within six consecutive calendar years.
3. All Addiction Studies courses must have a minimum acceptable letter grade of B.
4. The candidate must be in residence for a minimum of 27 semester hours in order to receive the master's degree.
5. Candidates must take both a prevention practice exam and a treatment practice exam associated with their practicum/seminar course. They are expected to pass both exams and will receive either a Pass or Fail grade.

Candidates who fail the first administration of the test will be required to retake the exam for which they received the failing score. If a candidate, who has met all other requirements for passing the practicum/seminar course, fails the second administration of the exam(s), he or she must meet with the practicum/seminar course instructor to discuss a plan to remedy the candidate's deficiency.

The plan must be in writing and signed by the candidate, his or her advisor, and the instructor of the course. A copy of the plan is to be placed in the student's permanent file.

- 5a. Or- instead of taking the two exams - candidates- with prior approval of the practicum course instructor and while enrolled in the practicum/seminar course, may -at their own expense-enroll in a test preparation course(s) or workshop(s) offered by appropriate prevention and/or treatment state certification personnel and designed to help students prepare for exams required for state certification. There will be no exemption for preparation courses or workshop taken in the past unless taken within the three month period prior to the semester during which they are enrolled in the practicum/seminar course. Proof of attendance and participation in current or past test preparation course and/or workshop(s) will be required.

6. Candidates must complete 300 practicum/internship hours: 150 prevention hours and 150 treatment hours. Required documentation for all 300 hours should be submitted by the last day of the university's official midterm examination week during the semester for which a candidate has applied for graduation. It is the sole responsibility of the candidate to obtain signatures required for each practicum/internship document.
7. Candidates must take and pass a Comprehensive Examination. The Comprehensive Examination will cover course content studied throughout the candidates' program of study. Candidates must pass the exam before they are allowed to graduate.
8. Candidates must, as part of their Research Project course(s), complete and submit to the Addiction Studies Graduate Faculty Committee a scholarly product, which might be a thesis or extensive review of the literature. All product proposals must be approved in advance by the instructor of the Research Project course(s).

TRANSFER OF CREDIT REQUIREMENTS ARE AS FOLLOWS:

1. A maximum of 9 semester hours may be transferred from another institution. **Acceptance of transfer credit will not reduce the number of hours required for residency.** An official transcript must be on file with the Registrar.
2. All courses must be approved by the Addiction Studies Graduate Admissions Committee. The course(s) must have been bona fide graduate courses taken at a regionally accredited institution. Distant education courses, if any, will be judged on a course by course basis. Such courses may require additional documentation. **Graduate credit from foreign institutions cannot be transferred.**
3. Course(s) must **not** have been used to satisfy requirements for any degree previously granted.
4. The student must have been enrolled as a graduate student in the institution offering the course(s).
5. The course(s) must appear on an official transcript as graduate credit. All grades must be a B or higher.
6. The courses must be recommended by the student's major advisor and be applicable to the master's degree in addiction studies. They must have content and requirements that are similar to those in the Addiction Studies courses, which they might replace
7. The course(s) must be acceptable to the Director of Addiction Studies, the Dean of Arts and Sciences, and the Vice-Chancellor of Academic Affairs.
8. The course(s) must have been taken **after** their enrollment in the program and within the six year period allotted for student to complete their requirements for the master's degree in addiction studies. Exceptions will be dealt with on a case-by-case basis.

DELAY OF ENROLLMENT AND READMISSION PROCEDURES

Initial entry is valid for the semester indicated on the student's application for admission into the Addiction Studies program, or as indicated on the letter of admission. However, a student may delay enrollment to a later semester, if the Program Director and Graduate Advisor consent to the delay. (At the same time, consent to delay enrollment does not obligate the Addiction Studies program to perpetuate beyond the original date, any assistantship or scholarship offers that accompanied the original acceptance). Readmission will be contingent upon an evaluation of the application, based on current admission standards and/or other factors. Students, who are accepted but do not subsequently enroll, must request readmission to the Addiction Studies Program. Students seeking readmission, must:

1. Complete a formal application for readmission (no fee),
2. Submit a letter of request to the Addiction Studies Graduate Admissions Committee,
3. Submit official transcripts from all colleges and universities attended since previous admission,
4. Validate a cumulative undergraduate GPA of 2.5 or higher and/or a cumulative graduate GPA of 3.0 or higher.

RESIDENCY REQUIREMENTS

Students enrolled in the Master of Science Degree in Addiction Studies program must complete twenty-seven (27) semester hours in residency at the University. The 27 hours may include a combination of face to face courses and virtual courses offered by the program). Virtual course offered by other universities will not be accepted for residency purposes.

TIME LIMITS

All requirements for the Master of Science Degree in Addiction Studies program must be satisfied within six (6) consecutive years.

PROBATION AND DISMISSAL

Graduate students are expected to maintain a high level of achievement in their graduate studies. Accordingly, students who do not maintain satisfactory progress may be subject to being placed on probation, being terminated from a graduate program, or being denied permission to continue graduate studies. No student on probation may receive a graduate degree.

Probation

A graduate student in the addiction studies program may be placed on probation for one semester or recommended for termination if there is failure to complete satisfactorily any required program requirements, including number of course hours, required examinations, and appropriate grade point averages. During the probationary period, the student must demonstrate performance at a level consistent with minimum program requirements.

Probation may be initiated by the Graduate Advisor, the Program Director, or Dean for the School of Arts and Sciences. Students on probationary status may not be admitted to master's

level Comprehensive Examinations or other examinations for advancement to candidacy. In addition, students on probationary status are NOT eligible for graduate fellowships, scholarships, stipends, or appointments.

Dismissal

A student may be asked to withdraw from the addiction studies program if his or her work or behavior is unsatisfactory. The recommendation for withdrawal must be made in writing by the Graduate Advisor, stating specific examples of unsatisfactory work or behavior. The recommendation must follow a documented conference held between the student, the Graduate Advisor, the Program Director, and the Dean for the School of Arts and Sciences. Official notification will be forwarded to the Vice Chancellor of Academic Affairs.

APPEAL PROCESS

Student appeals relative to admission, admission status, probation, dismissal, or other concerns must be submitted in writing to the Graduate Advisor who will forward them to the Program Director, the Graduate Admissions Committee, the Dean for the School of Arts and Sciences, and the Vice Chancellor for Academic Affairs, where all decisions are final.

ACADEMIC DISHONESTY

Academic Dishonesty involves acts which may subvert or compromise the integrity of the educational process at the University of Arkansas at Pine Bluff. Included is any act by which a student gain attempts to gain an unfair academic advantage in fulfilling the requirements. These acts include, but are not limited to, accomplishing or attempting any of the following acts:

1. Altering of grades or other official records;
2. Using any material not authorized by the instructor during an examination;
3. Unauthorized copying from another student's paper during an examination;
4. Collaborating during an examination with any other person by giving or receiving information without specific permission of the instructor;
5. Stealing, buying, or otherwise obtaining information about an un-administered examination;
6. Collaborating on laboratory work, take-home examinations, homework, or other assigned work when instructed to work independently;
7. Substituting for another person or permitting any other person to substitute for one's self to take an examination;
8. Submitting as one's own any them, report, term paper, essay, computer program or other written work prepared totally or in part by another;
9. Submitting work to one professor that has been previously offered for credit in another course;
10. Plagiarizing, that is, the offering as one's own work the words, idea(s), or arguments of another person without appropriate attribution by quotation, reference, or footnote;
11. Sabotaging another student's work;
12. Falsifying or committing forgery data as experimental data from laboratory projects, survey research or other field research;
13. Submitting altered or falsified data as experimental data from laboratory project; survey research, or other field research;

14. Committing any willful act of dishonest that interferes with the operation of the academic process;
15. Facilitating or aiding in any act of academic dishonest;

Acts of academic dishonesty can lead to dismissal from the Addiction Studies program. Dismissed students may appeal this decision as stated in the ‘Academic Grievance Procedure for Graduate Students’ section of the Graduate Student Handbook, page 27.

INCOMPLETE GRADE (“I”)

Incomplete grades indicate that the student has not met specific requirements in a course.

1. The instructor will report an “I” only for a student who is passing, who can complete the assignments without additional instruction and who can present a valid reason for not completing the work during the semester.
2. The student must petition the instructor for an incomplete grade, “I”, on or before the day of the final examination.
3. The instructor must write a justification for the “I” and file a copy in the department chairperson’s office along with a copy of the student’s petition. This justification for the “I” and file a copy of the student’s petition. This justification must include the signature of the instructor, the specific requirements to be completed and pre-calculated grade in case the student does not fulfill the necessary assignments for the completion of the course.
4. The student must fulfill necessary requirements of the course by the end of the semester immediately following the semester in which the “I” was incurred or the “I” grade will change to an “F” grade. (**Example:** An incomplete earned during the fall semester must be made-up by the end of the spring semester).
5. The instructor or the departmental chairperson, in the absence of the instructor is responsible for reporting the final grade change to the Admissions and Academic Records Office. If not corrected by the instructor or the departmental chairperson, the Office of Admissions and Academic Records will automatically change the “I” to an “F”. The instructor should secure “Incomplete” or “Delayed” grade report forms from departmental chairperson and submit them personally to the Admissions and Academic Records Office.

CHANGES IN UNIVERSITY ACADEMIC POLICIES

The University reserves the right to change the regulations for admission to, instruction in, and graduation from the University and to change other regulations affecting the student body at any time. New regulations go into force whenever proper authorities determine they are needed and apply both to prospective students and to those matriculating at the time.

COURSE DESCRIPTIONS

GASP 5311: Diagnostics and Statistical Evaluation in Addiction Studies

This course provides instruction in the utilization of diagnostic and statistical evaluation procedures. Emphasis is placed on statistical terminology, statistical concepts and research methodologies. The course encompasses screenings, evaluations diagnostics, and assessment, and their application` to treatment and prevention. The course also covers clinical supervision and the domains of the addiction counselor's Twelve Core Functions. The goal of this course is to optimize the student's operational knowledge and understanding of diagnostic and evaluation methods in the addiction content.

GASP 5312: Clinical Models of Addiction

Students are introduced to the different models of addiction in order to practice and deliver effective prevention and treatment services for common addiction behavior such as pathological gambling, substance abuse, eating disorders, and sexual disorders and diagnosis and other co-morbidity disorders. The effects and prevalence of coexistence and co-morbidity of nicotine usage and addiction will also be examined. Students will study assessment, counseling theories, and a variety of clinical models developed to explain causality and the fundamental behavioral, social and biological mechanisms of addiction.

GASP 5313: Alcohol and Alcoholism

The course considers a broad selection of from the field of alcohol and alcoholism, including the history, politics, psychology, and sociology of alcohol use, alcohol physiology, the medical consequences of chronic drinking, the diagnosis and treatment of alcohol dependence, and alcohol prevention and education. Alcohol dependence is presented as a treatable disease. The course will provide students a comprehensive understanding of current research and science-based knowledge related to alcohol, alcoholism, and other drugs. Contrasting points of view will be presented and critically analyzed as they relate to physiological, sociological and psychological perspectives.

GASP 5321: Case Management and Prevention Ethics

This advanced level course in case management and prevention ethics emphasizes ethical concepts principles. Professional behavior, confidentiality issues, and advanced management and supervising techniques will be examined. Emphasis will be placed on diagnosis and assessment. Students will explore procedures to identify and evaluate and individuals and family's strengths, weakness, problems, and needs in order to develop and effective plan of action. The students will also examine the effectiveness of referrals and coordination as case management tools for retention of clients in prevention and treatment programs.

GASP 5322: Substance Abuse Prevention

This course provides advanced study of substance abuse prevention and other drugs. Topics for discussions include: prevention strategies, human resources development and enhancement, public speaking, program development, social policy, impact, recruitment and retention of volunteers, and written communication. This course will utilize a variety of strategies to teach students how to work with community coalitions, local schools and community agencies to prevent substance abuse.

GASP 5323: Family Counseling

This course provides intensive instruction in the familiar concepts, along with theory and practice of the family counseling in alcohol and other drug abuse prevention and treatment settings. Emphasis will be placed on the pivotal role of family counseling in the therapeutic process. Family dynamics and familial issues confronted by families and by families with addictive individuals, along with best practices in counseling families on strategies to prevent permanent damage and/or destruction of the family structure will be presented.

GASP 5331: Dual Diagnosis

This course provides a comprehensive review of dual diagnosis processes (substance abuse and psychiatric) disorders, including areas of assessment and diagnosis and DSM-IV classification of mental disorders. Diagnostic criteria related to crisis intervention, education, referral, reporting, record keeping and consultation will be studied. Signs and symptoms, of all related substance abuse disorders will be examined. The concurrence of alcohol and other drug addictions with other psycho-social disorders will be studied. This course will expose students to a variety of critical diagnostic learning experiences that will increase their clinical knowledge and diagnostic skills in this crucial area of prevention and treatment.

GASP 5332: Planning, Managing, and Evaluating Substance Abuse Programs

This course provides intensive instruction in program planning (including grant writing, alcohol and other drug presentations, case summaries, and program design), program management (e.g., substance abuse prevention, treatment programs and budget), and program evaluation. Specific modalities of services applicable to Arkansas and Federal Rules and Regulations will be examined. The relationships among related systems (e.g., criminal justice) through which intervention takes place will be examined. Students will learn how to manage, plan and evaluate cases, as well as how to deliver appropriate and necessary managed services. Students will be expected to master planning concepts and to have knowledge of level of care placement criteria, standardized treatment planning methods, and evidenced-based prevention and/or treatment strategies. This course will also benefit graduates who eventually seek licensure and third party billing.

GASP 5333: Counseling Special Populations

This course examines cultural competencies related to treatment issues and techniques. Knowledge and understanding of the development of programs related to diverse cultures and special populations (e.g., adolescents, the homeless, persons with HIV/AIDS, women, rural Americans, children of alcoholics; and minority groups such as Hispanics, Native Americans, and others) will be discussed. This course builds on prior courses that introduce and examine the basic concepts of addiction within diverse populations. A review of the cross culture literature and treatment practices and outcomes indicate a need of practitioners to develop culturally relevant skills in working with special populations with regard to substance abuse will be examined. The course examines the role of assessment cultural and offers an examination of the eight practice dimensions of cross cultural addiction counseling. This course will include an examination of specific practice models and their relevance to these diverse populations. The course will also revisit some of the twelve core functions of professional practice, including

treatment planning and intervention. Termination, relapse prevention and after care are also described in the context of special and diverse populations.

GASP 5341: Employee Assistance Program in Business and Industry

This course examines employee assistance programs in many contexts: school, industry and university. Focus is placed on assessment and referral services, and utilization of counseling in the EAP context. Supervisory training, health promotion, EAP components and issues will be examined. This course is one of the umbrella courses that will result in the application of theories and techniques taught in the addiction studies program. This course compliments and examines practices that encourage usage of Employee Assistance Programs.

GASP 5342: Practicum / Seminar

This graduate level course is a weekly seminar that includes capstone assignments and activities. The course requires a practicum that consists of a 300 clock-hour supervised field experience focused on treatment, (i.e., counseling) or prevention. Practicum placements will be based upon students' declared areas of interest (i.e., either prevention or treatment). The field experience will also meet the practicum standards adopted by the International Certification and Reciprocity Consortium (IC&RC). This practicum/seminar course will help students, seeking advanced credentials in treatment, to meet some of the IC & RC standards for educational and practicum experiences. Students will declare their area of interest to their advisor(s) prior to enrolling in the course. Students will be at field practicum sites approximately 20 hours each week and will meet in the classroom one hour each week. The weekly seminars will provide opportunities for students to engage in activities designed to help them reflect on their practicum experiences and to synthesize their learning from previous courses.

GASP 5343: Research Project

The graduate level course requires students to complete a major research project that will synthesize the theories, concepts, research methods, and measurement skills learned in their previous addictions studies courses. The project will involve writing a research proposal, conducting research, (GASP 5311) and making and oral presentation of research findings. This course will place an emphasis on developing practical research skills that can be applied to preventing and treating various addictions, including, tobacco addiction. Additionally, the course will provide students with an opportunity to review, study, and apply social research in the addiction field. It will provide a step by step classroom process which involves practical experiences in conducting research and completing scholarly projects.

MASTER OF SCIENCE DEGREE IN COMPUTER SCIENCE & TECHNOLOGY

**School of Arts and Sciences
Department of Mathematical Sciences and Technology
University of Arkansas at Pine Bluff
1200 North University Drive, Mail Slot 4987
Pine Bluff, Arkansas 71601**

**Dr. Charles R. Colen, Ph.D.
Department Chair/Graduate Coordinator of Industrial Technology**

**Jessie J Walker, Ph.D.
Program Coordinator/Graduate Coordinator of Computer Science
(870) 575.8774**

OVERVIEW OF PROGRAM

The M.S. degree in Computer Science & Technology (CS&T) is a unique professional degree grounded in natural science, technology, engineering, mathematics and computational sciences. Designed to prepare students for direct entry into a variety of career options in industry, business, government, or non-profit organizations, it is a distinctive advanced degree for those intending to pursue a career in the practice of science.

The CS&T program prepares graduates for high-level careers in science that have a strong emphasis on such skill areas as management and entrepreneurship. CS&T graduates are expected to progress toward leadership roles.

The CS&T degree differs from both a coursework only degree and a research master's degree in that it incorporates an internship and an employer based project. The CS&T degree produces graduates highly valued by employers by combining advanced graduate coursework in industrial technology and computer science with an appropriate component of professional skills development and by including an experiential learning component appropriate to the targeted employment sector. The experiential learning frequently involves an internship and provides an opportunity for students to demonstrate proficiency in written and oral communication skills.

ADMISSION PROCESS

Prospective students must submit a complete set of application materials to the Department of Mathematical and Computer Sciences or Department of Industrial Technology, depending on the student's graduate interest. All correspondence regarding admission should be directed to the Graduate Coordinator of the respective program.

APPLICATION DEADLINES

Application deadlines for admission to the Master of Science degree program are: June 20 for Fall Semester, November 10 for Spring Semester, and March 10 for Summer Session I. Application deadlines for international students are: June 1 for the Fall Semester, and October 1

for Spring Semester, and April 1 for the Summer Session.

REGULAR ADMISSION

An applicant for admission to the Master of Science program in Computer Science & Technology is expected to have earned a B.S. degree in Computer Science, Information Technology/Science, Industrial Engineering, and Industrial Technology).

The basic admission standards are the same as those for other graduate programs at the University of Arkansas at Pine Bluff. Specifically, these include: an undergraduate GPA of at least 3.00 on a 4.00 scale. In addition, each application must include three letters of recommendation from faculty familiar with the academic ability of the applicant. International students must score at least 550 on the Test of English as a Foreign Language (TOEFL).

PROVISIONAL ADMISSION

Applicants who meet the grade point average requirements but have a baccalaureate degree from an accredited institution in a non-computer science or industrial technology field may be accepted as a provisional student. Provisional students must make up deficiencies through undergraduate course work that will not count for credit toward a degree. The specific course work will be determined by the graduate coordinator, the student's advisor, and the department chair. Provisional students will be given one academic year to complete any deficiencies to continue in the program

CONDITIONAL ADMISSION

Students with a baccalaureate degree in the computer science or industrial technology field from an accredited institution who do not meet the grade point average requirement, may be considered for conditional admission if they have at least a 2.8 GPA on a 4.0 scale and composite GRE score of 306 (Quantitative & Verbal). Conditional students must earn a GPA of 3.0 or better during their first two academic semesters to continue in the program. Conditional students will be given one academic year to complete any deficiencies.

RESEARCH ASSISTANTSHIPS

Research assistantships are awarded for a maximum of two academic years. Individual faculty members fund research assistantships through research grants; therefore, funding possibilities should be discussed with prospective advisors.

The time limitation does not imply a student will receive support during her/his first two years. Whether or not a student receives support depends on the availability of funds and the suitability of the student to carry out the responsibilities associated with the support. Support beyond the stated limits requires justification, which must be reviewed by the chairpersons and approved by the Dean of the School of Arts and Sciences prior to continuation.

SPECIFIC DEGREE REQUIREMENTS

For all majors in the Computer Science & Technology program, at least thirty (30) semester credit hours of graduate work is required, of which 24 hours consist of graduate coursework and 6 hours consist of a graduate thesis/project approved by the graduate advisory committee. All students will be required to complete 9 semester hours of core graduate courses and 9 hours of

guided graduate electives from a list of applicable courses. Students can take 6 hours of open graduate elective courses from a list of open electives, two of which may be in other appropriate disciplines as determined by the graduate advisory committee. A maximum of 6 semester hours with a grade of "C" may be used to satisfy degree requirements. Graduate students must maintain a 3.0 cumulative grade point average on a 4.0 scale. In addition, no course with a grade of "D" may be used to satisfy any degree requirements.

GRADUATE STUDENT LOAD

A full-time graduate student load is 9 credit hours during a regular semester and 6 credit hours during the summer term. A full-time graduate student's load may not exceed 9 credit hours per regular academic semester, including any undergraduate courses. Students who wish to enroll in a course at another campus must file a concurrent enrollment form, signed by their major advisor, graduate coordinator, department chair and dean, with the Registrar prior to enrolling at another campus. As many as 9 semester hours may be transferred from other institutions, but credit will be given only for specific courses in the University of Arkansas at Pine Bluff's computer science and technology graduate curriculum requirements. Credit will not be allowed for courses taken more than 5 years prior to the application for transfer to University of Arkansas at Pine Bluff.

There is a separate concurrent enrollment form to be filed by international students with the Office of International Studies. Students who are not enrolled full-time are not eligible for graduate assistantships. Students not on assistantships and finishing their thesis may maintain graduate status with 3 credit hours. International students will need to contact the Office of International Studies for a course reduction form and will need a letter from their advisor to maintain graduate status with 3 credit hours.

ADVISORY COMMITTEE

Every master's student will have an advisory committee consisting of a minimum of three members, one of whom will be a permanent, full-time computer science, or industrial technology or mathematical sciences faculty member. The other members may be from either within, or outside, the Mathematical & Computer Sciences or Industrial Technology departments in a related area of interest, who are capable of evaluating the work performed by the student.

ADVISORY COMMITTEE FORMATION

The student's advisory committee must be formed by the student's second semester enrolled in the program. The student is responsible for identifying, in consultation with his/her departmental chairperson, a faculty member who will chair her/his advisory committee. In consultation with the chairperson of the committee, the student is responsible for identifying two other computer science / math / industrial technology / faculty members who are willing to serve on her/his committee. At the discretion of the chairperson of the committee, the committee may include at most one member external to the UAPB faculty, i.e., either faculty from other universities or appropriate personnel from industry.

Also, at the discretion of the committee chairperson, the advisory committee may include more than three members. If desired, two members of the committee may serve as co-chairs of the committee. If a student is unable to identify a sufficient number of faculty who are suitable and

willing to serve on her/his advisory committee, the student will be advised by the departmental chairperson that he/she should either change her/his area of research interest to more closely match those of the available faculty, or consider selecting another major. Failure to form a committee is cause for transfer to non-degree status. Further regulations concerning the membership, appointment and responsibilities of a student's advisory committee are described in other sections of the graduate catalog.

THESIS/COMPREHENSIVE EXAMINATION

A candidate for a master's degree in computer science & technology must submit a thesis in writing and orally present and defend the thesis to her/his advisory committee. The student will submit to their advisory committee by the end of his/her second semester a thesis proposal as outlined below.

THESIS PROPOSAL

A thesis proposal should be developed prior to the initiation of thesis research and submitted to committee members for approval before the end of the second full semester of enrollment. The proposal must include Introduction, Literature Review, Methods, Results, Discussion and References sections. The style of the thesis proposal will follow the 'manuscript preparation' guidelines for the Association for Computing Machinery (ACM) or Institute of Electrical and Electronics Engineers (IEEE) journals.

THESIS PRESENTATION, DEFENSE, AND SUBMISSION

All students planning to defend their thesis will have an advisory committee meeting to determine if research is sufficient, all courses on the plan of study have been taken/successfully passed, and the thesis draft is in satisfactory condition for defense. The advisory committee also shall serve as the thesis defense committee. The entire advisory committee must be given sufficient time to review and approve the thesis for defense prior to scheduling the defense. The thesis will be presented to the public in a seminar format with the aid of computer presentation tools such as Microsoft PowerPoint.

The thesis defense must be scheduled and advertised two weeks before the intended presentation date. The student will give a 30~45 minute overview of his/her research and results followed by audience questions. The presentation and questions will last no longer than one to two hours. The meeting at which the thesis is presented, and defended also, serves as the student's final oral comprehensive examination over any or all aspects of the student's master's program.

Upon completion of the thesis defense, the student will be excused while the advisory committee determines the outcome of the defense (Pass or Fail). Passing the thesis defense requires majority committee agreement. The advisory committee may elect to pass a student with conditions such as recommending minor changes to the thesis. The student will be notified immediately following the thesis defense of his/her success or failure and the changes that must be made before the thesis will be given final written approval by the committee. The chair of the student's advisory committee will provide written notification of the defense outcome to the student.

In the event that the student fails the thesis defense, the student may elect to defend a second and

final time at least 30~60 days after the initial thesis defense. In the event the student fails the second defense, the student will be dismissed from the program.

On the form on which the chairperson of the student's advisory committee reports the results of the thesis defense, the chairperson also reports the results of the comprehensive examination, including a brief synopsis of the examination. These signatures indicate that all proposed research is satisfactory and all suggested changes have been satisfied and that the thesis is complete.

NON-THESIS PROJECT OPTION

Students may be able to enroll in a non-thesis project option for the degree requiring 24 hours of course work and 6 hours of project work leading to a 30 credit hour requirement for graduation. Students choosing this option will have to go through a final presentation in the project related area. The review committee is to be chosen by the student in consultation with the chairperson based upon the project work chosen. Each student must prepare and deliver the project to members of their committee who are going to attend the presentation and to the project advisor, at least two week before the presentation is scheduled.

The project must include the following:

- Problem specification/definition (1-3 pages)
- System/software architecture, if applicable (1-2 pages)
- Requirement Specification [software and hardware, if applicable] (6-20 pages)
- Design specification (6-20 pages)
- Test cases and test results [if any software has been developed] (5-10 pages)
- Source code, if any software has been developed (as many pages as needed)

Upon completion of the project defense, the student will be excused while the advisory committee determines the outcome of the defense (Pass or Fail). Passing the project defense requires majority committee agreement. The advisory committee may elect to pass a student with conditions such as recommending minor changes to the project. The student will be notified immediately following the project defense of his/her success or failure and the changes the must be made before the project will be given final written approval by the committee. The chair of the student's advisory committee will provide written notification of the defense outcome to the student.

PROBATION AND DISMISSAL STATEMENT

Graduate students in computer science and technology are expected to maintain a high level of achievement in their graduate studies. Accordingly, students who do not maintain satisfactory progress may be subject to being placed on probation, being terminated from the graduate program, or denied permission to continue with graduate studies. No student on probation may receive a graduate degree.

PROBATION PROCESS

A graduate student in the computer science & technology program may be placed on probation for one semester or recommended for termination if there is failure to complete satisfactorily any program requirements, including number of course hours and appropriate grade point averages.

During the probationary period, the student must demonstrate performance at a level consistent with minimum program requirements.

Probation may be initiated by the graduate advisor, any graduate advisory committee member, graduate coordinator or Dean of the School of Arts and Sciences. Students on probationary status are not eligible for graduate fellowships, scholarships, stipends, or appointments.

DISMISSAL PROCESS

A student may be asked to withdraw from the Computer Science & Technology program if his or her work or behavior is unsatisfactory. The recommendation for withdrawal must be made in writing by the department chairperson or graduate program coordinator stating specific examples of unsatisfactory work or behavior. The recommendation must follow a documented conference held between the student, the department chairperson, graduate program coordinator and the Dean of the School of Arts and Sciences. Official notification will be forwarded to the Vice Chancellor for Academic Affairs.

APPEAL PROCESS

See the ‘Academic Grievance Procedure for Graduate Students’ section of the Graduate Student Handbook, page 27.

COURSE DESCRIPTIONS

Graduate Core Curriculum

GCST 5320 Project Management & Managing Operations 3 Credits (3 hrs. Lecture)

Students will learn how project management roles are changing as innovative contracts, alternate delivery systems, alternative dispute resolution, and creative project financing are increasingly changing how projects are administered. In addition, students will learn about cost and risk control as well as developing and applying policies and procedures. Other topics will include subcontractor management, purchasing and project financing. Project start up and close out techniques will be covered.

GAQF 5300 Research Methods and Scientific Writing 3 Credits (2 hrs. Lecture, 1 hr. Lab)

Students will learn general principles of scientific writing and how to conduct literature searches. Different formats of written communications pertinent to technology, scientific writing styles, within peer-reviewed journal, extension and trade publications, government documents. Offered spring semester of every year

GCST 5344 Networking & Security 3 Credits (3 hrs. Lecture)

This course provides an advanced understanding of the technical and management aspects of computer networking and security. The course builds on the knowledge and skills students have acquired in prior courses, such as CPSC 3344—Networking. Students are presumed to have a general understanding of information technology and its applications.

Guided Graduate Electives: Computer Science

GCST 5331 Software Engineering 3 Credits (2 hrs. Lecture, 1 hrs. Lab)

This course will offer students advance topics in the discipline of software engineering in which students will study a collection of methods, which embody an "engineering" approach to the development of computer software and their impact on the associated hardware. The major work of the course will be group project. The course will be divided into two halves, in the first half students will analyze and design a moderately large software project. In the second half students will undertake the implementation, testing, release, and maintenance of the project that was started in the first half.

GCST 5345 Programming Concepts 3 Credits (2 hrs. Lecture, 1 hr. Lab)

This course provides students with a comprehensive understanding of the tools and problem-solving methodologies related to computer programming. The primary focus will be underlying problem-solving and information-gathering techniques. The course will cover topics on the general concepts and syntax, whereas the lab aspect will focus on implementation and practice. Students will be exposed to high-level programming logic, variables, programming tools, decision-making structures, loop structures and data structures beyond the standard undergraduate course.

GCST 5394 Advanced Database Systems 3 Credits (2 hrs. Lecture, 1 hr. Lab)

This course is an advanced graduate course on database systems. It gives an overview of a few key research topics in database systems, including information retrieval (IR), principles of semi-structured XML databases and security and privacy from the database perspective. Course

readings are drawn from recent top-tier international database conferences and journals.

GCST 5389 Distributed Systems 3 Credits (3 hrs. Lecture)

This is an introductory graduate level course in distributed systems. It will expose students to theoretical as well as practical aspects of designing such systems. The course assumes that the student has some familiarity with programming. Topics covered in the course include: models of distributed computation, resource allocation, global property evaluation, global computation, consensus, and fault-tolerance.

GCST 5356 Intelligence Systems 3 Credits (2 hrs. Lecture, 1 hr. Lab)

This course will provide a comprehensive introduction to the foundation in the field of intelligence system design at the operational, tactical, and strategic levels. Topics such as process analysis and design, transaction processing systems, management information systems, and executive systems will be covered, along with other topics relevant to the fields of computer science and engineering.

Guided Graduate Electives: Industrial Technology

GCST 5307 Quality Control & Six Sigma 3 Credits (2 hrs. Lecture, 1 hr. Lab)

This course will provide a comprehensive coverage of the principles and practice of quality assurance and control, theory of statistical sampling and control and related economic analysis, Quality Systems, Six Sigma principles and practice.

GCST 5316 Logistics & Supply Chain Mgmt 3 Credits (2 hrs. Lecture, 1 hr. Lab)

This course presents advanced topics in production logistics: forecasting, aggregate production, inventory systems, and materials requirement planning; lean supply system and supply chain management; warehousing and distribution systems; supply chain information technologies, and government policies/regulations.

GCST 5302 Advanced AutoCAD Design 3 Credits (2 hrs. Lecture, 1 hr. Lab)

This course presents advanced techniques in CAD software application for 2D and 3D design and drafting, including the use of a customized system. Students will develop advanced drawing applications, such as solids modeling and linking graphic entities to external non-graphic data.

GCST 5322 Advanced Robotics 3 Credits (2 hrs. Lecture, 1 hr.. Lab)

This course will introduce students to advanced topics in robotics and their associated technologies, and algorithms. Application of artificial intelligence tools and techniques to computer integrated manufacturing systems, including maintenance, product design, process planning, factory scheduling and control, robotics, and intelligent warehouse systems is also presented.

GCST 5356 Intelligence Systems 3 Credits (2 hrs. Lecture, 1 hr. Lab)

This course will provide a comprehensive introduction to the foundation in the field of intelligence system design at the operational, tactical, and strategic levels. Topics such as process analysis and design, transaction processing systems, management information systems, and executive systems will be covered, along with other topics relevant to the fields of computer science and engineering.

Open Graduate Electives: Computer Science & Industrial Technology

GPS 5346 Bioinformatics 3 Credits (3 hrs. Lecture)

This is a practical "hands-on" course in bioinformatics that will emphasize how to use computers and the web as tools to analyze and represent large collections of biological sequence and structure data. Prerequisites include a basic understanding of biological sciences and some mathematics and statistics, but no prior knowledge of computer programming or computer hardware is necessary.

GCHM 5331 Higher Order Thinking in Science 3 Credits (3 hrs. Lecture)

Designed to introduce science teachers to modern methods of science instruction. A series of laboratory exercises involving cooperative learning, discovery learning and integrative scientific disciplines are introduced.

GCST 5300 Technology Internship 3 Credits (3 hrs. Lab)

This course is designed to provide students with an opportunity to gain work experience that will enhance and complement their academic learning. The course requirements are designed to provide a structure that will enable students to make connections between what they learn in the classroom and on the job, to further develop analytical and interpersonal skills, and to practice technical writing skills in real-world settings.

GMTH 5345 Probability and Statistics 3 Credits (3 hrs. Lecture)

This course will cover the more widely used statistical methods, including simple and multiple regression, single factor and multifactor analysis of variance, multiple comparisons, goodness of fit tests, contingency tables, nonparametric procedures, and power of tests. At least one major statistical package will be used to aid statistical calculations.

Graduate Thesis or Graduate Project

GCST 6V00 Thesis

Graduate students pursuing a master's degree with a thesis option will complete a graduate research project under the supervision of a major advisor and a graduate faculty committee. The advisor and/or committee will decide upon the amount of research/thesis credit that the student will register for each semester in consideration of the student's graduate research project and thesis workload.

GCST 6V01 Project

Graduate students pursuing a master's degree with a non-thesis option will complete a major research project that will synthesize the theories, concepts, research methods, and measurement skills learned in their previous computer science & technology courses. The project will involve writing a research proposal, conducting research, and making an oral presentation of research findings. This course will place an emphasis on developing practical research skills that can be applied to the practical technology-oriented projects. It will provide a step by step classroom process which involves practical experiences in conducting research and completing scholarly projects.

School of Education

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PROGRAM OVERVIEW

The School of Education Graduate Programs offers master's degree programs in three (3) areas: the Master of Education in Early Childhood Education; the Master of Education in Secondary Education with five specialties: English education, science education, mathematics education, physical education, and social studies education; and the Master of Arts in Teaching with two options: middle level education and secondary education. The Master of Education in Early Childhood Education and the Master of Arts in Teaching are within the Department of Curriculum and Instruction. The Master of Education in Secondary Education with a specialty in physical education is within the Department of Health, Physical Education and Recreation. The other specialties with the Master of Education in Secondary Education degree program-- English education, science education, mathematics education, and social studies education—are offered in conjunction with the School of Arts and Science. All degree programs require the completion of a minimum of thirty-six (36) hours of graduate level course work and the passing of a comprehensive examination as the capstone event.

These master level degree programs also allow candidates who hold bachelor's degrees from regionally accredited universities to pursue a master's degree and to complete programs of study leading to Arkansas teacher licensure. The program of study for those seeking initial licensure (Track II) includes undergraduate courses (graduate course prerequisites), graduate course work, a professional portfolio, and a one semester student teaching experience for Master of Education programs (traditional licensure programs) and a two-semester internship for MAT programs (non-traditional alternative licensure programs).

PURPOSE

The major purpose of the School of Education Graduate Programs is to provide advanced academic opportunities which will prepare educators for the following:

- leadership in their professions and in their various communities;
- improved instruction for preschool, including infants and toddlers, through grade twelve;
- responsible, productive citizenry as prospective change agents in the field of education; and
- the ability to meet educational challenges of an ever changing global society.

GENERAL ADMINISTRATION

The program is administered by the Coordinator of the School of Education Graduate Programs. The Dean of the School of Education will have approval responsibility for the graduate programs. The Graduate Council, along with the Dean of Graduate Studies, has legislative authority for the entire process and designates specified advisory responsibilities. The School of Education's Teacher Education Committee also approves all new courses, degrees, and degree plans before they are submitted to the Graduate Council.

CONCEPTUAL FRAMEWORK FOR PROFESSIONAL EDUCATION

The conceptual framework for the professional education programs is predicated on the philosophy that the unit is preparing professionals to work in a world where change occurs constantly and lifelong learning is a necessity. This conceptual framework, the Teacher as a Promoter of Academic Excellence (T-PAE), is the guiding structure from which all educational experiences in the School of Education, both at the undergraduate and graduate levels have evolved. This comprehensive framework includes seven (7) domains: knowledge of content; assessment; technology; professional education; professional growth; social, cultural and human diversities; and community and global awareness. Thus, the T-PAE Model depicts the uniqueness of graduate education at the University of Arkansas at Pine Bluff.

The conceptual framework is based upon critical dimensions within teaching: changes in demographics, global perspectives, problem solving, teacher expectations, and technological demands in classrooms for preschool, including infants and toddlers, through grade twelve learners. Graduate students exit the programs prepared to work professionally with all learners, especially from culturally diverse and exceptional populations. The curriculum of these programs provide candidates with experiences in developing the knowledge, skills, and dispositions which will enhance self-esteem, confidence, and constructive interpersonal relations among people of all ethnic, cultural, socio-economic, and religious backgrounds. Additionally, courses aligned with the conceptual framework address technology, assessment, and instructional skills.

Graduates from all of the master's degree programs exit the program with a unique preparation as teachers that promote academic excellence. This preparation also emerged from the structure found in the mission of the School of Education, which states:

The Mission of the School of Education is consistent with the Mission of the University of Arkansas at Pine Bluff - a 1980 Land Grant Institution. Within this perspective, the School of Education offers quality programs leading to licensure and careers in professional education. In addition to training teachers and human service professionals

to meet the educational challenges of an ever changing society in the 21st Century, the School of Education provides opportunity for the students to study in a multiethnic and diverse university setting, thereby encouraging responsible, productive citizens and prospective change agents in the field of education. The School of Education fulfills its mission through teaching, research and public service to the immediate service area, the state of Arkansas, and the nation.

The conceptual framework and the university's mission, along with the Pathwise Domains and state and national standards, provide the foundation for all graduate educational experiences.

ADMISSION*

The School of Education has an assessment system that includes admission data, mid-level (retention) data, and exit data. Admission data result from the collection of admission requirements and provide for full (unconditional) and conditional admission. The admission decisions are based upon objective criteria and subjective considerations. The graduate level admission procedure is a comprehensive system which outlines specific requirements necessary for unconditional admission approval to the School of Education. All admission decisions are recommended by the Office of Graduate Programs for approval by the School's Admission, Retention, and Exit Committee.

Admission to Graduate Status

Applicants requesting admission to the graduate program are considered for graduate study as a result of graduate status. Graduate status is acknowledged upon receipt of an official copy of the applicant's baccalaureate degree transcript from a regionally accredited institution in the United States, or a foreign institution with comparable baccalaureate degree requirements. Conference of graduate status does not automatically guarantee admission to the School of Education's graduate program. Graduate status may be extended to persons who are not seeking a graduate degree (non-degree), as well as to persons who have made the decision to pursue graduate study for the purposes of obtaining the master of education degree.

To pursue the graduate degree, a person with graduate status has to gain regular admission (conditional or unconditional) to the graduate program. Persons in pursuit of the graduate degree are accepted into a program of study by a department after gaining regular (conditional or unconditional) admission to the graduate program in the School of Education. Applicants holding graduate status, who may have not been accepted in a program of study leading to a specific graduate degree, are advised that no more than twelve (12) semester hours of graduate-level courses, which may be counted toward the requirements for a graduate degree, prior to completing the admission process.

Regular Admission*

Admission to the graduate program requires: (1) a baccalaureate degree from a regionally accredited institution of higher education; (2) two transcripts from all institutions of higher education that have been attended; (3) an undergraduate cumulative grade point average of at least 2.75 (3.00 in the last 60 hours attempted); (4) an application for admission; (5) a letter of interest; (6) a resume; (7) two letters of recommendation from former professors and/or employers (school-based, personnel); (8) GRE scores if the grade point average is not satisfied in #2 above OR with the completion of twelve (12) graduate hours with a GPA of at least 3.0; (9)

interview/Disposition Assessment I; (10) acceptance in a department supported by a degree plan recommended by the coordinator of the School of Education graduate programs; and (11) approval by the school's Admission, Retention and Exit committee.

Once regular admission is obtained and candidates have accumulated twelve (12) hours, candidates must also be admitted to degree candidacy before they can continue with their degree programs.

****Admission requirements for the Master's of Arts in Teaching program are listed with the description of that program.***

Admission Alternatives to Established Admission Policies

An important component of the School of Education Graduate Programs is the ability for those with a non-teaching baccalaureate degree to be able to fulfill the requirements for teacher licensure while pursuing a graduate degree while they are enrolled in the master's degree programs. Graduate students must be eligible for teacher licensure prior to being formally admitted to degree candidacy for any of the master's degree programs. Candidates are allowed to take up to twelve hours while they are completing the required Praxis Series of examinations needed for licensure.

Conditional Admission

Conditional admission may be granted as a result of the School of Education's established policies, which allow for alternatives to the unconditional (regular) admissions procedures to encourage enrollment of underrepresented populations. Conditional admission may be granted to advanced candidates who have not satisfied all admission requirements. Candidates admitted conditionally must earn a grade point average of at least 3.00 during their first twelve (12) hours of course work and complete all admission criteria to continue in the program.

MID-LEVEL (RETENTION)

Mid-level data are collected as a result of candidates being admitted to degree candidacy. After admission to the program and the completion of twelve (12) hours with a GPA of at least 3.0, a candidate must make a formal application for Admission to Degree Candidacy before continuing in the program.

Admission to Degree Candidacy

Satisfying the degree candidacy status requires the following:

For Candidates Holding an Initial/Standard Arkansas Teacher's License

- (1) graduate status;
- (2) full unconditional admission status in a master of education degree program;
- (3) completion of twelve (12) graduate level hours with a GPA of at least 3.0;
- (4) a standard Arkansas Teaching License

For Candidates Seeking an Initial Arkansas Teacher's License

- (1) Praxis I scores in reading, writing and mathematics which meet state licensure requirements;

- (2) application to the School of Education; and
- (3) Interview/Disposition Assessment II (Admission to the School of Education interview for those seeking initial licensure)

All admissions to degree candidacy decisions are recommended by the Graduate Programs for approval by the School's Admission, Retention, and Exit Committee.

EXIT

Exit level data are collected once candidates have enrolled in or completed 27 hours. All degree programs require a minimum of 36 graduate hours, and candidates are considered to have reached exit level status once they are enrolled in or have completed 27 hours of the course work from their degree plans. Candidates are required to complete the courses as outlined on the degree plan that has been approved by the graduate advisor in order to be granted exit status by the Admissions, Retention and Exit Committee. Graduate students who have accumulated the required number of hours, but who have an incomplete (I) grade in one or more courses will not be eligible to take the graduate comprehensive examination.

Graduate Comprehensive Examinations

The capstone event for the School of Education Graduate Programs is its comprehensive examination, an essay test over three courses from a candidate's educational core and content specialty. All candidates for master's degrees must successfully complete the School of Education Graduate Comprehensive Examinations by writing for three (3) different professors from their educational core and content specialty areas. The Office of the SOE Graduate Programs compiles a list of candidates who are eligible to take the test, that is, candidates who have gained degree candidacy and have completed twenty-seven (27) hours from their approved graduate degree plans or are enrolled in their twenty-seventh hour. The eligibility list is submitted to advisors, chairpersons, and deans.

The School of Education Comprehensive Examination process is as follows:

- The School of Education Comprehensive Examination is administered each fall and spring semester on a date established by the SOE Graduate Coordinator.
- All eligible candidates should register for the School of Education Graduate Comprehensive Examinations with their graduate advisor who will assist them with the selection of the appropriate examining committee members.
- The Examining Committee Members form should be submitted by the candidate to the Office of School of Education Graduate Programs by the appropriate deadline date.
- Candidates are encouraged to consult with their examining committee in advance of taking the comprehensive examination.
- Graduate faculty who are placed on examination committees should submit comprehensive examination questions to the coordinator of the School of Education Graduate Programs by the deadline date.
- Candidates will be administered the School of Education Graduate Comprehensive Examination by the graduate coordinator and advisors.
- Following the examination, the Comprehensive Committee Chairperson (the candidate's advisor) will be responsible for distributing materials to other committee members and collating rater response sheets.

- The Comprehensive Committee Chairperson will return to the Office of the School of Education Graduate Programs the “Report of Examining Committee” form specifying the candidate’s performance as satisfactory or unsatisfactory.
- Candidates should have official notification of the results approximately two weeks after administration. All satisfactory scores will be submitted to the Registrar’s Office.
- Candidates failing one or two parts of the examination may be eligible to rewrite with permission from the evaluator (rating professor).
- If a candidate who has failed one or two parts of the examination remains unsuccessful after the “rewrite,” he/she may request to be interviewed by the entire committee on the content of the examination item(s) failed. A majority vote of the Examination Committee will be needed to reverse the decision of the primary item evaluator. Candidates who remain unsuccessful after both the rewrite and interview will be asked to complete a research project and/or complete additional courses. Candidates may also be asked to retake the examination.
- A candidate who fails all three parts of the examination will be required to retake the entire examination at the next regularly scheduled examination date. Additionally, the examining committee will decide if the candidate must complete additional courses and/or complete research projects according to the specifications of the candidate’s advisor.

Other Exit Requirements

Other exit requirements include the following:

- ✓ Admission to Degree Candidacy admission letter,
- ✓ Arkansas Standard Teaching License or documentation of having completed all required parts of the Praxis Series: Praxis I, Praxis II—Content Specialty, and Praxis II—Principles of Learning and Teaching (*for those seeking licensure*),
- ✓ the completion of any undergraduate (including student teaching) courses,
- ✓ the completion of the School of Education Professional Portfolio (*for those seeking licensure*),
- ✓ the completion of a minimum of 36 graduate-level hours with a cumulative grade point average of 3.00 on an advisor approved degree plan. (No grades below a “C” or an “Incomplete” are acceptable.),
- ✓ the successful completion of the School of Education Graduate Comprehensive Examination, and
- ✓ the approval of the Admission, Retention, and Exit Committee.

*****Special exit requirements for the Master of Arts in Teaching degree are listed with that degree’s requirements.***

ADDITIONAL POLICIES

Residence Requirements

The candidate must complete a minimum of twenty-seven (27) hours in residence in order to receive a master’s degree from the University of Arkansas at Pine Bluff. All programs require

the completion of a minimum of 36 hours of graduate course work as prescribed by the specific program's degree plan.

Course Load

Graduate courses may not be used simultaneously to fill both undergraduate and graduate course requirements. A full-time graduate student load is (9) hours; three (3) additional hours may be taken with the approval of the candidate's advisor, the graduate coordinator and the dean of the School of Education. Full-time for a summer session is six (6) hours.

Transient Students

Applicants who are pursuing a graduate degree at another accredited college or university are eligible to be admitted for one semester only as a non-degree seeking student. A "Letter of Good Standing" is required from the Dean of the graduate school of the applicant's home institution.

Undergraduate/Graduate Enrollment

Undergraduate students who are within nine (9) semester hours of graduation (does not include student teaching) may enroll in graduate courses not to exceed six (6) semester hours. Graduate courses may not be used to fulfill both graduate and undergraduate course requirements. Any request for exceptions to the administrative criteria must be presented in writing to the admission retention and exit committee.

Time Limitation

All requirements for the master's degree must be satisfied within six consecutive calendar years of a candidate's beginning of a course of study toward a degree. Courses older than six (6) years will not be counted toward the completion of a degree.

Transfer of Credit

A graduate student may transfer no more than nine (9) hours of graduate credit from another regionally accredited graduate school in the United States, provided the grades are "B" or better and the courses are acceptable to the appropriate department as a part of the master's program. An additional three hours may be transferred subject to approval of the graduate advisor, chairperson, deans of the School of Education and Graduate Studies, and the graduate coordinator. Only courses that counted toward a degree at an accredited institution will be considered for transfer credit. Graduate students wishing to transfer credit must submit official transcripts and other appropriate course identification information to the graduate advisor for initial approval. The transfer of graduate credit from institutions outside the U.S. is not permitted.

The recommendations of the graduate advisor for transfer of credit must be submitted on a "Transfer of Credit" form and forwarded to the department chairperson, deans of the School of Education and Graduate Studies, the graduate coordinator, and the registrar for approval. Coursework may be transferred upon the graduate student's admission into a graduate program and must not be older than six (6) years at the time of approval. Graduate students transferring to the University will be required to complete at least twenty-seven (27) hours credit prior to graduation. These hours must be taken in residence. This regulation is binding even though the

graduate student has sufficient hours of credit otherwise to meet the requirements. All standards with respect to transfer credit are binding and are not, therefore, subject to appeal.

ACADEMIC GUIDELINES

The University reserves the right to change the regulations for, admission to, instruction in, and graduation from the University and to change other regulations affecting the student body at any time. New regulations go into force whenever proper authorities determine they are needed and apply both to prospective graduate candidates and to those matriculating at the time.

Grading System

A -- (90-100) Excellent	I -- Incomplete
B -- (80-89) Good	W -- Withdrawal
C -- (70-79) Fair	AUD -- Audit, carries no credit
D -- (60-69) Poor	R -- Repeated, carries not credit
F -- (59 or below) Failure	

Academic Progress

Candidates enrolled in a graduate program at the University of Arkansas at Pine Bluff School of Education must maintain a cumulative grade point average of 3.00 on a 4.00 grading scale. Candidates receiving a “D” or “F” in a course must repeat the course. A cumulative grade point average of 3.00 is required for graduation.

Academic Probation

If a candidate has less than a 3.00 cumulative grade point average in 12 or more semester hours of course work taken in residence for graduate credit, the candidate will be placed on Academic Probation. The candidate will subsequently be dismissed from the graduate program if the cumulative grade point average is not raised to 3.00 or above with the next semester/session of attendance. In accordance with established procedures, the graduate faculty of an academic program may recommend that the candidate be readmitted to the graduate program. Dismissed candidates may petition for readmission by submitting a written appeal to the Coordinator of the School of Education Graduate Programs.

Academic Dismissal

Candidates may be recommended to drop from a graduate program if at any time their performance is considered unsatisfactory as determined by the program faculty, the Dean of the School of Education, or the Dean of Graduate Studies and Continuing Education. Academic dishonesty and failure to maintain academic progress are considered to be unsatisfactory performances.

Academic Dishonesty

See “Section V: Academic Policies for Graduate Students” of the Graduate Student Handbook, page 25 for details.

Advanced candidates found guilty of academic dishonesty may be requested to withdraw from a course or retake a test on the next scheduled examination date as in the case of the School of Education Graduate Comprehensive Examination. Acts of academic dishonesty will be referred

to the Admissions, Retention and Exit Committee who will enforce the policies and procedures of the University.

Incomplete Grade (“I”)

Candidates must fulfill necessary requirements of the course by the end of the semester immediately following the semester in which the “*I*” was incurred or the “*I*” grade will change to an “*F*” grade. The professor, or the departmental chairperson in the absence of the professor, is responsible for reporting the final grade change to the Admissions and Academic Records office. If not corrected by the professor or the departmental chairperson, the Office of Admissions and Academic Records will automatically change the “*I*” to an “*F*” and immediately notify the student. *Note: A student may not re-register for a course in which a grade of “I” was earned.*

Grade Changes

All grades, once reported, remain a matter of permanent record and cannot be changed, except in case of a clerical error. Any appeal or question concerning an assigned grade must be made in writing within one semester after the grade was awarded.

Audit Credit

Candidates registering for “*Audit*” must indicate this during the registration period. Auditors pay the regular student fee (no academic credit is awarded).

Attendance Policy

Candidates are expected to be diligent in the pursuit of their studies and in their class attendance. Candidates have the responsibility of making arrangements satisfactory to the professor regarding all absences. Such arrangements should be made prior to the absence if possible. Policies of making up work missed as a result of absence are at the discretion of the professor, and Candidates should inform themselves at the beginning of each semester concerning the policies of their professors. Candidates should also adhere to the attendance policy provided in the current University of Arkansas at Pine Bluff Undergraduate catalog.

Schedule Change (Dropping and Adding)

A change in schedule must be approved by a graduate advisor and the School of Education graduate coordinator. Approval for dropping a course must be secured from the professor, graduate advisor, and graduate coordinator. Candidates must see that the approved schedule change is filed in the Admissions and Academic Records Office. A grade of “*F*” will be assigned to a candidate who fails to drop a course officially. No grade will be reported for a student who attends a class in which he or she is not officially enrolled.

Withdrawal from the Graduate Programs

A candidate voluntarily withdrawing from a graduate program should (1) secure a UAPB Student Withdrawal Slip and a Course Drop Slip from the Admissions and Academic Records Office at least seven (7) days prior to final examinations; (2) secure approval from the professor, graduate coordinator, and the Vice Chancellor for Academic Affairs; (3) secure clearance from the Student Accounts Office; and (4) return all approved slips to the Admissions and Academic

Records Office. A candidate must apply to the Student Accounts Office for a refund of fees if applicable.

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MASTER OF EDUCATION IN EARLY CHILDHOOD EDUCATION, P-4

The Master of Education in Early Childhood provides a program of study for teachers with bachelor's degrees in early childhood education that is designed to enhance a teacher's knowledge and skills in birth to grade four instruction. This degree also offers a program of study for those with bachelor's degrees in other areas who seek licensure in early childhood education.

TRACK 1--The Master of Education in Early Childhood Education requires 36 semester credit hours. Candidates must complete a minimum of 18 hours in an early childhood specialty, 12 hours in the professional education core and 6 hours of foundation/specialty electives. A written comprehensive examination in the specialty and professional core is required.

Track 1

Candidates with an Initial/Standard License in Early Childhood Education

Professional Core Courses **12 Hours**

GEDU 5315 Instructional Technology
(Prerequisite: Demonstrated course skills)

GEDU 5364 Teaching Diverse Learners

GEDU 5372 School/Parent/Community Resources and Relations

GEDU 5320 Application of Statistics/Research in Education
(Prerequisite: Nine hours of graduate level courses)

Specialty Requirements **18 Hours**

GECE 5300 History, Trends and Issues in Early Childhood Education

GECE 5303 Literacy in Early Childhood Education

GECE 5305 Early Childhood Curriculum Development

GECE 5306 Assessment in Early Childhood Education

GRDG 5313 Preventing Reading Difficulties in Young Children

GSPE 5338 The Exceptional Child in Early Childhood Education Programs

Elective Courses (Confer with advisor before selecting a course.) 6 Hours

- GEDU 5309 Computer-Assisted Instruction
- GECE 5301 Advanced Child Development and Learning
- GECE 5304 Early Childhood Methods/Materials for Teaching Mathematics/Science
- GECE 5308 Children’s Literature P-4
- GECE 5310 Administration and Supervision of Early Childhood Programs
- GSPE 5363 Behavior Management

TRACK 2--An important component of the School of Education Graduate Programs is the ability for those with a non-teaching baccalaureate degree to be able to fulfill the requirements for teacher licensure while pursuing a graduate. Graduate students must have demonstrated pre-professional competencies in basic skills, that is, have passed Praxis I, prior to being formally admitted to degree candidacy for any of the master’s degree programs. Candidates are allowed to take up to twelve hours while they are completing the required Praxis I series of tests needed for licensure. Candidates seeking licensure must also complete a program of study (all of the specified prerequisites including Arkansas History and six (6) hours of reading methods courses, a professional portfolio and a full-time student teaching experience.) Candidates should take the professional core courses in the order as listed below.

Track 2
Candidates without Licensure in Early Childhood Education

These candidates complete a minimum of 36 graduate hours for a master’s degree which includes: 12 hours of general core courses, minimum of 21 hours of specialty courses, and a minimum of 3 hours of electives. Capstone Event: Graduate Comprehensive Examination.

Passing Praxis I scores are required for admission to degree candidacy (by the time 12 graduate hours have been completed). Those without a license in early childhood education must also complete all listed prerequisites—15 hours of undergraduate course requirements—and complete the Arkansas History course, SOE Portfolio (Live Text) and Student Teaching. Candidates seeking initial licensure must also pass the following tests: Praxis II 10022 Early Childhood: Content Knowledge and Praxis II 30521 Principles of Learning and Teaching: Early Childhood.

Prerequisites 15 Hours

(Each of these courses requires 10-15 hours of field experience.)

- RDNG 2314 Emergent Literacy
- RDNG 4310 Methods of Teaching Reading to Young Children
- SPED 2310 Introduction to Learners with Special Needs
- ECE 3303 Guiding Young Children’s Behavior
- ECE 4304 Developmentally Appropriate Practices for Teaching Young Children

Test Requirements for Initial Licensure in Early Childhood Education

Praxis I and Praxis II--10022 Early Childhood: Content Knowledge and
Praxis II 30521 Principles of Learning and Teaching: Early Childhood

Additional Course Requirements 15 Hours

HIST 3300 Arkansas History
EDUC 4600 Student Teaching Clinical Seminar (*Taken after all course work completed*)
ECE 4607 Teaching Practicum (*Taken after all course work completed*)

Professional Core Courses 12 Hours

GEDU 5315 Instructional Technology
(Prerequisite: Demonstrated course skills)

GEDU 5364 Teaching Diverse Learners

GEDU 5372 School/Parent/Community Resources and Relations

GEDU 5320 Application of Statistics/Research in Education
(Prerequisite: Nine hours of graduate level courses)

Specialty Requirements 21 Hours

GECE 5300 History, Trends and Issues in Early Childhood Education
(Prerequisite: ECE 4304 Developmentally Appropriate Practices for Teaching Young Children)

GECE 5301 Advanced Child Development and Learning

GECE 5304 Early Childhood Methods/Materials for Teaching Mathematics/Science

GECE 5305 Early Childhood Curriculum Development
(Prerequisite: ECE 4304 Developmentally Appropriate Practices for Teaching Young Children)

GECE 5306 Assessment in Early Childhood Education
(Prerequisite: ECE 4304 Developmentally Appropriate Practices for Teaching Young Children)

GRDG 5313 Preventing Reading Difficulties in Young Children
(Prerequisite: RDNG 4310 Methods of Teaching Reading to Young Children)

GECE 5308 Children's Literature P-4
(Prerequisite: RDNG 2314 Emergent Literacy **or** Literature for Young Children)

Elective Courses (*Confer with advisor before selecting a course.*) 3 Hours

(Candidates seeking initial licensure must be admitted to degree candidacy before selecting one of the following electives.)

GEDU 5309 Computer-Assisted Instruction
(may be used as the prerequisite for GEDU 5315)

GEDU 5322 Psychological Foundations of Teaching and Learning
(Prerequisite: ECE 4304 Developmentally Appropriate Practices for Teaching Young Children)

GECE 5303 Literacy in Early Childhood Education
(Prerequisite: RDNG 2314 Emergent Literacy)

- GSPE 5338 The Exceptional Child in Early Childhood Education Programs
(Prerequisite: SPED 2310 Introduction to Learners with Special Needs)
- GSPE 5363 Behavior Management
(Prerequisite: ECE 3303 Guiding Young Children’s Behavior)

EARLY CHILDHOOD EDUCATION COURSE DESCRIPTIONS

Professional Core Requirements 12 hours

GEDU 5315 - Instructional Technology

This course explores media and instructional design with application of state-of-the-art technology for preschool, including infants and toddlers, through grade twelve learners as well as for those with exceptionalities. *Prerequisite—Demonstrated Computer Skills or EDUC 2312 Computers in Education; EDUC 2309 Utilization/Instructional Media, GEDU 5309 Computer-Assisted Instruction, comparable computer course, or computer skills test.*

GEDU 5364 - Teaching Diverse Learners

This course examines background, knowledge and insights, and social foundations of education in a culturally diverse society and assists advanced candidates in refining definitions of the role of teachers. It also examines personal beliefs and practices regarding issues of race, language, gender, ethnicity, and exceptionality. Culturally based instructional and curricular adaptations that enhance candidates’ opportunities to succeed with all learners from birth through grade twelve are emphasized. *Candidates are required to conduct an in-depth study of a selected topic and report the results of the study orally and in writing.*

GEDU 5372 - School/Family/Community Resources and Relations

This course recognizes the family and community environment as powerful educational influences on students and assists advanced candidates with developing and applying activities and strategies that foster family involvement in a variety of learning settings. The course emphasizes family community resources, effective communication strategies, family activities in formal and informal learning settings, and the roles of the family in governance of organized learning centers and schools. *Requires a research project.*

GEDU 5320 - Applications of Statistics and Research in Education

This course emphasizes rudimentary statistics, research design and understanding of research leading to a research proposal on a current issue in early childhood, middle level, secondary or special education. *Prerequisites: Nine (9) hours of graduate level courses from ECE degree plan.*

Early Childhood Education Specialty and Elective Courses

GECE 5300 - History, Trends and Issues in Early Childhood Education

This is a course which deals with current research pertinent to contemporary and future concerns and issues: exceptionality, demographic trends, family composition and change, social/political/economic issues, and evolving professional roles in early childhood and early childhood special education. This course will address the impact that these issues and standards such as the Pathwise Domains, state and national standards have on learning. *Research project*

required. (Prerequisite: ECE 4304 Developmentally Appropriate Practices for Teaching Young Children)

GECE 5303 - Literacy in Early Childhood P-4

This course explores the concepts, materials and teaching strategies to enhance language development, print awareness and early systematic reading and writing instruction, especially vocabulary development, fluency and comprehension. Recent research and theory concerning literacy will be used to develop practical strategies that lead to a rich environment for reading, speaking, listening and writing experiences for the young, and very young, learners. *Requires a research project and/or clinical experiences. (Prerequisite: RDNG 2314 Emergent Literacy)*

GECE 5305 - Early Childhood Curriculum Development

This course is an advanced course in the study of early childhood education and the formulation of an approach to curriculum design and evaluation for early childhood education and early childhood special education programs. *Requires a research project and/or clinical experiences. (Prerequisite: ECE 4304 Developmentally Appropriate Practices for Teaching Young Children)*

GECE 5306 - Assessment in Early Childhood Education

This course is a study of assessment measures and methods specific to early childhood programs, including individuals with exceptional learning needs (ELN) in mathematics, science, social sciences, and language arts. Candidates will be required to participate in supervised observation and participation in an approved early childhood education program. *(Prerequisite: ECE 4304 Developmentally Appropriate Practices for Teaching Young Children)*

GRDG 5313 - Preventing Reading Difficulties in Young Children

This course is designed to provide the competencies considered essential for effective early childhood reading instruction. Additionally, this course will emphasize scientifically based reading research, and instructional trends, while also allowing for applications of informal literacy assessments, diagnoses and strategies for intervention in the varied learning settings. Candidates are required to become knowledgeable in models for reading development, emergent literacy, major theories, differentiated instruction and family/home connection, relative to the teaching of reading to young learners. *(Prerequisite: RDNG 4310 Methods of Teaching Reading to Young Children)*

GSPE 5338 - The Exceptional Child in ECE Programs

This course is designed to assist advanced candidates to work effectively with young children, including infants and toddlers, with disabilities in early childhood education programs. Discussion will include federal and state mandates, support strategies for families and children, assessment, and methods of facilitating positive interpersonal interactions among infants, toddlers, and young children. *(Prerequisite: SPED 2310 Introduction to Learners with Special Needs)*

GECE 5301 - Advanced Child Development and Learning

This course is an in-depth integrated treatment of child development with emphasis on the cognitive development of young learners, including those with exceptionalities. In addition, this course examines the developmentally appropriate behavior management strategies to improve

the behavior and learning of infants, toddlers, and young children. *Requires a research project and/or clinical experiences.*

GECE 5304 – Early Childhood Education Methods/Material for Teaching Mathematics/Science

This course applies theory and research findings to content, procedures, and activities for the improving the understanding of mathematics and science and for developing/increasing the competence in, or ability to, begin working with numbers and science activities/experiments for young and very young learners. *Research and/or clinical experiences are required.*

GECE 5308 - Children's Literature P-4

This is an advanced study of literature with emphasis on selecting materials reflecting the differing needs of children in a pluralistic society, especially for very young children--infants and toddlers, and pre-kindergarten through grade four children. *Research and/or clinical experience are required. (Prerequisite: RDNG 2314 Emergent Literacy or Literature for Young Children)*

GECE 5310 - Administration and Supervision of Early Childhood Programs

Planning, developing and implementing early childhood programs, policies, concepts, assessments and records. Includes actual evaluations of early childhood programs and centers. *Requires extensive clinical experiences.*

GEDU 5309 - Computer-Assisted Instruction

Requires development of computer proficiency and treat applications of computer technology to the improvement of instruction.

GSPE 5363 – Behavior Management

Emphasis on using the theories and principles of behavior management for the improvement of conduct and learning. *(or ECE 3303 Guiding Young Children's Behavior.)*

MASTER OF EDUCATION IN SECONDARY EDUCATION DEGREE PROGRAMS
*(Specialties: English Education, Science Education, Mathematics Education,
Physical Education and Social Studies Education)*

TRACK 1--The Master of Education in Secondary Education degree with specialties in English education, science education, mathematics education, physical education and social studies education requires 36 semester credit hours. Candidates must complete a minimum of 18 hours in their selected specialty, 12 hours in the professional education core and 6 hours of foundation/specialty electives. A written comprehensive examination (the capstone event) in the specialty and professional core is required.

TRACK 2--An important component of the School of Education Graduate Programs is the ability for those with a non-teaching baccalaureate degree to be able to fulfill the requirements for teacher licensure while pursuing a graduate degree. Graduate students must have demonstrated pre-professional competencies in basic skills, that is, have passed Praxis I, prior to being formally admitted to degree candidacy for any of the master's degree programs. Candidates are allowed to take up to twelve hours while they are completing the required Praxis Series of tests needed for licensure. Candidates seeking licensure must also complete a program of study (all of the specified prerequisites including Arkansas History for the social studies specialty, a professional portfolio and a full-time student teaching experience.)

Professional Education Core Course Requirements/Descriptions 12 hours

GEDU 5322 – Psychological Foundations of Teaching and Learning

This course includes an analysis of major historical and philosophical developments and their impact on American Education. Additionally, educational issues and trends in education, such as No Child Left Behind legislation, the Pathwise Domains, the School of Education's conceptual framework, and state and national standards, will be explored to determine their impact on teaching and learning. *Requires research project.*

GEDU 5315 - Instructional Technology

This course explores media and instructional design with application of state-of-the-art technology for preschool through grade twelve learners as well as for those with exceptionalities. *Prerequisite: Demonstrated computer skills or EDUC 2312 Computers in Education; EDUC 2309 Utilization/Instructional Media, GEDU 5309 Computer-Assisted Instruction, comparable computer course, or computer skills test.*

GEDU 5320 - Applications of Statistics and Research in Education

This course emphasizes rudimentary statistics, research design and understanding of research leading to a research proposal on a current issue in early childhood, middle level, secondary or special education. *Prerequisites: Nine (9) hours of graduate level courses*

GEDU 5364 - Teaching Diverse Learners

This course examines background, knowledge and insights, and social foundations of education in a culturally diverse society and assists advanced candidates in refining definitions of the role of teachers. It also examines personal beliefs and practices regarding issues of race, language,

gender, ethnicity, and exceptionality. Culturally based instructional and curricular adaptations that enhance Candidates' opportunities to succeed are emphasized. *Candidates are required to conduct an in-depth study of a selected topic and report the results of the study orally and in writing.*

Secondary Education Foundation Courses/Descriptions

Minimum: 6 hours

GEDU 5309 – Computer Assisted Instruction

Requires development of computer proficiency and treats applications of computer technology to the improvement of instruction.

GEDU 5324 – Curriculum Development

Consideration of historical, philosophical, and societal impact on the middle level and secondary school curriculum; emphasis upon evaluation and analysis of curriculum development models and the change process.

GEDU 5327 – Program for Effective Teaching

Systematic instruction based on the PET model and other lesson plan models, including provisions for demonstration teaching in the public schools. Pathwise model, domains and Praxis III preparation are emphasized. *Field experiences and action research project required.*

GEDU 5328 – Supervision of Instruction

Methods of supervising instructional personnel, including teachers, aides, volunteers, student teachers and candidates completing field experience.

GRDG 5312 - Developmental and Corrective Reading Process

This course involves an application of learning theory and research findings for diagnosis and remediation of reading difficulties using direct instruction, lesson design and evaluation. *Research and/or clinical experiences are required. (Prerequisite: Methods of Teaching Reading)*

GSPE 5363 - Behavior Management

This course emphasizes using theories and principles of behavior management for the improving of student behavior and learning. *Requires a research project.*

GEDU 5399 – Internship

Supervised educational experience designed to provide practical participation in selected settings to gain experience in the application of concepts, principles, and theories related to the student's area of specialization and professional goals. Internship experiences are planned and directed under the guidance of a faculty member. *Requires departmental approval.*

GEDU 5600 – Thesis

This thesis is an original research project conducted by a candidate under the supervision of an advisory, graduate research and an advisory committee appointed by the Coordinator of Graduate Studies. *Requires departmental approval.*

GRDG 5340 - Reading in the Content Areas

This course will assist middle level and secondary level candidates in developing an understanding of reading problems encountered by their students in subject-matter reading materials. Candidates will learn how to instruct their students by using research-based strategies that have been successful with helping students to read and comprehend the various texts encountered in middle through high school instruction. Emphasis will be placed on the literacy skills that will enable the grade 5-12 student to develop and use effective reading and writing skills in the content areas.

**MASTER OF EDUCATION IN SECONDARY EDUCATION
(SPECIALTY: PHYSICAL EDUCATION)**

Department of Health, Physical Education and Recreation

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William Torrence, Ph. D.

Chair

The Master of Education in Secondary Education degree with a specialty area in physical education requires 36 semester credit hours. Candidates must complete a minimum of 18 hours in the physical education specialty and 12 hours of professional education core courses and 6 hours of secondary education foundation and/or electives. A written comprehensive examination in the physical education specialization and secondary education core and/or foundations is required. Candidates seeking initial licensure must also complete the physical education prerequisites, the School of Education portfolio, courses in Behavior Management and Arkansas History, any prerequisites as specified by advisors, and the student teaching experience.

Track 1

Candidates with an Initial/Standard License in Physical Education

General Core Requirements 15 hours

- GEDU 5301 History and Philosophy of Education
- GEDU 5315 Introduction to Instructional Technology
- GEDU 5322 Psychological Foundations of Teaching and Learning
- GEDU 5320 Applications of Statistics and Research in Education
- GEDU 5364 Teaching Diverse Learners

Required Physical Education Courses 18 hours

Core Requirements: 12 Hours Required

- GPED 5310 Problems and Trends in Physical Education
 - GPED 5311 Administration and Organization of PE
 - GPED 5317 Measurement and Evaluation of PE
 - GPED 5313 Psychology of Sport
- Physical Education Electives: 6 Hours*
- GPED 5314 School and Community Health Services
 - GPED 5315 Legal Aspects of Coaching
 - GPED 5316 Alcohol and Drug Education
 - GPED 5312 Research in Health and Physical Education

Educational Foundation/Elective Courses 3 hours

- GEDU 5309 Computer Assisted Instruction
- GEDU 5324 Curriculum Development
- GEDU 5327 Program for Effective Teaching

- GRDG 5312 Developmental and Corrective Reading Process
- GSPE 5363 Behavior Management
- GEDU 5399 Internship
- GEDU 5600 Thesis
- GRDG 5340 Reading in the Content Areas

Track 2
Candidates without Licensure in Physical Education

These candidates complete a minimum of 36 graduate hours for a master’s degree which includes: 15 hours of general core courses, minimum of 18 hours of specialty courses, and a minimum of 3 hours of electives. Capstone Event: Graduate Comprehensive Examination.

Passing Praxis I scores are required for admission to degree candidacy (by the time 12 graduate hours have been completed). Those without a license in early childhood education must also complete all listed prerequisites—18 hours of undergraduate course requirements—and complete the Arkansas History course, SOE Portfolio (Live Text) and Student Teaching. Candidates seeking initial licensure must also pass the following tests: Praxis II 20856 Health and Physical Education: Content Knowledge, Praxis II 30092 Physical Education: Movement Forms—Analysis and Design and one or more of the PLT exams according to the licensure being sought: Praxis II 30521 Principles of Learning and Teaching Early Childhood, Praxis II 30523 Principles of Learning and Teaching 5-9 or Praxis II 30524 Principles of Learning and Teaching 7-12.

Prerequisites 18 Hours
 (Each of these courses requires 10 hours of field experience.)

- HLPE 1310 Personal Health and Safety
- HLPE 3320 First Aid/CPR
- HLPE 3226 Motor Learning
- HLPE 4319 Kinesiology
- BIOL 2425 Human Anatomy and Physiology
- HLPE 4320 Physiology of Exercise

Additional Course Requirements 15 Hours

- HIST 3300 Arkansas History
- EDUC 4600 Student Teaching Clinical Seminar (*Taken after all course work completed*)
- HLPE 4613 Teaching Practicum (*Taken after all course work completed*)

Professional Education Requirements 15 hours

- GEDU 5301 History and Philosophy of Education
- GEDU 5315 Instructional Technology
- GEDU 5322 Psychological Foundations of Teaching and Learning
- GEDU 5364 Teaching Diverse Learners
- GSPE 5363 Behavior Management

Core Requirements: 15 Hours Required

GPED 5310	Problems and Trends in Physical Education
GPED 5311	Administration and Organization of PE
GPED 5317	Measurement and Evaluation of PE
GPED 5313	Psychology of Sport
GPED 5312	Research in Health and Physical Education

Physical Education Electives: 3 Hours

GPED 5314	School and Community Health Services
GPED 5315	Legal Aspects of Coaching
GPED 5316	Alcohol and Drug Education

Physical Education Specialization (18 Hours)**GPED 5310 - Problems and Trends in Physical Education**

Problems as they relate to philosophy, procedures, assessment and practices in physical education and issues.

GPED 5311 - Administration Organization and Management of Physical Education and Athletic Programs

Guidelines for organizing and administering comprehensive physical education and athletic program, managing; theories of management, supervision, program planning, staffing, record keeping, and budgeting.

GPED 5313 - Psychology of Sport

Study of psychological factors affecting performance in sports and the analysis of athletic behavior and training programs for high-level performance.

GPED 5317 - Measurement and Evaluation in Physical Education

This course is designed to provide training in measurement, an evaluation of physical education courses and programs. Emphasis is placed on collection, organization and analysis of test scores. Emphasis is also placed on construction and analysis of standardized and teacher made tests.

GPED 5312 - Research in Health, Physical Education and Recreation

Uses scientific methods to address problems in health, physical education and recreation; emphasizes planning and design of research studies, collection of reliable and valid data, sampling methods and interpretation of data. Requires critical review of literature and incorporation of research findings into personal strategies.

GPED 5314 - School and Community Health Services

This course is designed to survey the structure and the interrelation of school and community health programs. Emphasis will be placed on the divisions of a comprehensive school health program, health problems of school-age youth, and the organization, function, and services of official and voluntary health organizations.

GPED 5315 - Legal Aspects of Coaching

This course is designed to develop the student's knowledge of the law as it relates to sport and physical activity. The course is appropriate for teacher preparation, coaches, physical education teachers, school administrators, owners and supervisors of private fitness centers, corporate fitness personnel, and private consultants in fitness and sports.

GPED 5316 - Alcohol and Drug Education

This course is designed to review and investigate drug use and abuse in the family, school and community. Further, to analyze what types of substances are being used, misused and abused and their social and economic impact on society. Consistent with the School of Education's conceptual framework, this course focuses on decision making as related to the acquisition of knowledge and skills for planning, implementing, and evaluating.

**MASTER OF EDUCATION IN SECONDARY EDUCATION
(SPECIALTY: ENGLISH EDUCATION)**

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**Dr. Paul Lorenz, Ph.D.
Interim Chairperson
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The Master of Education in Secondary Education degree with a specialty area in English education requires 36 semester credit hours. Candidates must complete a minimum of 18 hours in English, a 12 hour professional education core, and 6 hours of secondary education foundation courses. A written comprehensive examination in the English specialization and the professional education core and/or foundation is required. Advanced candidates seeking licensure must also complete the English education prerequisites, the School of Education professional portfolio, courses in Behavior Management and Arkansas History, and the student teaching experience.

Track 1

Candidates with an Initial/Standard License in English Education

Professional Education Requirements **15 hours**

GEDU 5301 History and Philosophy of Education
GEDU 5315 Instructional Technology
GEDU 5322 Psychological Foundations of Teaching and Learning
GEDU 5364 Teaching Diverse Learners
GEDU 5320 Applications of Statistics and Research in Education

Required Specialization Courses **18 hours**

GENG 5304 Advanced Composition
GENG 5311 The Bible as Literature
GENG 5312 Advanced Survey of American Literature to the Civil War
GENG 5313 Advanced Survey of American Literature Since the Civil War
GENG 5314 Advanced Survey of English Literature to 1700
GENG 5315 Advanced Survey of English Literature Since 1700
GENG 5323 Practicum: Development of Units in Rhetoric and Literature
GENG 5399/5699 Seminar

- GENG 5319 Advanced Survey of African American Literature
- GENG 5321 Advanced Survey of African American Literature II

Educational Foundation/Elective Courses 3 hours

- GEDU 5309 Computer Assisted Instruction
- GEDU 5324 Curriculum Development
- GEDU 5327 Program for Effective Teaching
- GRDG 5312 Developmental and Corrective Reading Processes
- GSPE 5363 Behavior Management
- GEDU 5399 Internship
- GEDU 5600 Thesis
- GRDG 5340 Reading in the Content Areas

Track 2
Candidates without Licensure in English Education

These candidates complete a minimum of 36 graduate hours for a master’s degree which includes: 15 hours of general core courses, minimum of 18 hours of specialty courses, and a minimum of 3 hours of electives. Capstone Event: Graduate Comprehensive Examination.

Passing Praxis I scores are required for admission to degree candidacy (by the time 12 graduate hours have been completed). Those without a license in early childhood education must also complete all listed prerequisites—18 hours of undergraduate course requirements—and complete the Arkansas History course, School of Education Portfolio (Live Text) and Student Teaching. Candidates seeking initial licensure must also pass the following tests: Praxis II 10041 English Language, Literature and Composition: Content Knowledge, 20042 Essays, and 30043 Pedagogy.

Prerequisites 18 Hours

(Each of these courses requires 10 hours of field experience.)

- ENGL 2360 World Literature I (or ENGL 2362 World Literature II)
- ENGL 3301 College Grammar
- ENGL 3360 Introduction to Shakespeare
- ENGL 3333 Adolescent Literature
- ENGL 4390 Literature and Criticism

Additional Course Requirements 15 Hours

- HIST 3300 Arkansas History
- EDUC 4600 Student Teaching Clinical Seminar (*Taken after all course work completed*)
- HLPE 4613 Teaching Practicum (*Taken after all course work completed*)

Professional Education Requirements 15 hours

- GEDU 5301 History and Philosophy of Education
- GEDU 5315 Instructional Technology
- GEDU 5322 Psychological Foundations of Teaching and Learning
- GEDU 5364 Teaching Diverse Learners

GEDU 5320 Applications of Statistics and Research in Education

Required Specialization Courses 18 hours

GENG 5304 Advanced Composition
GENG 5311 The Bible as Literature
GENG 5312 Advanced Survey of American Literature to the Civil War
GENG 5313 Advanced Survey of American Literature Since the Civil War
GENG 5314 Advanced Survey of English Literature to 1700
GENG 5315 Advanced Survey of English Literature Since 1700
GENG 5323 Practicum: Development of Units in Rhetoric and Literature
GENG 5399/5699 Seminar
GENG 5319 Advanced Survey of African American Literature
GENG 5321 Advanced Survey of African American Literature II

Additional Educational Foundation Course 3 hours

GSPE 5363 Behavior Management

English Course Descriptions

GENG 5304 – Advanced Composition

A survey of rhetorical theory, both historical and modern, underlying current practice in both reaching and writing of effective essays. Prerequisite: Graduate standing or permission of the instructor.

GENG 5311 – The Bible as Literature

This course provides a careful analysis of the great themes, enigmatic periscopes, apocalypticism, great parables, and literary masterpieces found in the Bible. The analysis will offer a greater understanding of what the text is saying and doing, all that is needed for gaining a greater appreciation.

GENG 5312 – Advanced Survey of American Literature to the Civil War

An intensive survey of American Literature and literary history from the Colonial times to the Civil War. Prerequisite: Graduate standing or permission of the instructor.

GENG 5313 – Advanced Survey of American Literature Since the Civil War

An intensive survey of American literature and literary history from the Civil War period to the present. Prerequisite: Graduate standing or permission of the instructor.

GENG 5314 – Advanced Survey of English Literature to 1700

An intensive survey of English literature and literary history from the Old English period to 1700. Prerequisite: Graduate standing or permission of the instructor.

GENG 5315 – Advanced Survey of English Literature since 1700

A survey of English literature and history from 1700 to the present. Prerequisite: Graduate standing or permission of the instructor.

GENG 5319 Advanced Survey of African American Literature

A critical survey of African-American literature from its beginning to 1900.

GENG 5321 Advanced Survey of African American Literature II

A critical survey of African-American literature from 1900 to the present.

GENG 5323 – Practicum: Development of Units in Rhetoric and Literature

Practical experience in the application of current theory in the development and presentation of writing, rhetoric, and literature in the secondary school classroom. Prerequisite: Graduate standing or permission of the instructor.

GENG 5399/5699 - Seminar (3) GENG (6 hours)

An in-depth investigation of a particular literary, rhetorical or pedagogical topic. Seminar topics may change each time the course is offered. Prerequisite: Graduate standing or permission of the instructor.

**MASTER OF EDUCATION IN SECONDARY EDUCATION
(SPECIALTY: GENERAL SCIENCE EDUCATION)**

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The Master of Education in Secondary Education degree with a specialty area in General Science (life/earth science OR physical/earth science) requires a minimum of 36 semester credit hours. Candidates must complete a 12 hour professional education core, a 9 hour required specialization core, a 12 hour life science or physical science concentration, and a 3 hour (minimum) educational foundation elective. A written comprehensive examination in the general science specialization and the professional education core and/or electives is required. Advanced candidates seeking licensure must also complete the SOE portfolio, courses in Behavior Management and Arkansas History, and the student teaching experience.

Track 1
**Candidates with an Initial/Standard License in Life/Earth Science (Biology) or
Physical/Earth Science (Chemistry) Education**

Professional Education Requirements 15 hours

GEDU 5301 History and Philosophy of Education
GEDU 5315 Instructional Technology
GEDU 5322 Psychological Foundations of Teaching and Learning
GEDU 5364 Teaching Diverse Learners
GEDU 5320 Applications of Statistics and Research in Education

Educational Foundation Electives 3 hours

GEDU 5330 Behavior Management
GRDG 5340 Reading in the Content Areas

CHOOSE EITHER LIFE SCIENCE OR PHYSICAL SCIENCE CONCENTRATION

Required Specialization Core 6 hours

GPHY 5301 Advanced Earth Science (*Prerequisite: Earth Science 2300 & 2310*)

GPHY 5365 Advanced Environmental Science

Life Science Concentration 12 hours

GBIO 5310 Advanced Biology
GBIO 5330 Advanced Cell Biology
GBIO 5320 Laboratory Experiences/High School Teachers
GCHM 5340 Advanced Biochemistry OR
GAGR 5400 Molecular Biology

Physical Science Concentration 12 Hours

GCHM 5325 Advanced Chemistry
GCHM 5330 Methods in High School Chemistry Teaching
GPHY 5355 Advanced Physics
GCHM 5340 Advanced Biochemistry OR
GBIO 5310 Advanced Biology

Science Electives 3 hours

GCHM 5331 Higher Order Thinking in Science
GAQF 5300 Research Methods and Scientific Writing
GSPS 5346 Bioinformatics
GCHM 5335 Nuclear Chemistry
GCHM 5350 Chemical Separations

Track 2

Candidates without Licensure in Science Education

These candidates complete a minimum of 36 graduate hours for a master's degree which includes: 15 hours of general core courses, minimum of 18 hours of specialty courses, and a minimum of 3 hours of electives. Capstone Event: Graduate Comprehensive Examination.

Passing Praxis I scores are required for admission to degree candidacy (by the time 12 graduate hours have been completed). Those without a license in life/earth or physical/earth science education must have the appropriate science degree, complete the SOE Portfolio (Live Text) and Student Teaching.

Candidates seeking initial licensure must also pass the following tests:

Life/Earth Science Licensure Test Requirements

Praxis II: 20235 Biology: Content Knowledge, 20571 Earth Science: Content Knowledge, and 30234: Life Science: Pedagogy

Physical/Earth Science Licensure Test Requirements

Praxis II: 20571 Earth Science: Content Knowledge, 20481 Physical Science: Content Knowledge, and 30483 Physical Science: Pedagogy

Prerequisite

A bachelor's degree in biology for life/earth science education majors or a chemistry for physical/earth science education majors

Additional Course Requirements

12 Hours

EDUC 4600 Student Teaching Clinical Seminar (*Taken after all course work completed*)

EDUC 4603 Teaching Practicum (*Taken after all course work completed*)

Professional Education Requirements

15 hours

Required Specialization Course Descriptions (9 Hours)

GPHY 5301 – Advanced Earth Science

This course is designed to instruct the graduate student in advanced earth science studies. This course encompasses an understanding of the natural forces at work within the atmosphere, hydrosphere, lithosphere and biosphere of planet Earth. The purpose of this course is twofold: to prepare all students to master pertinent information required to understand the integrated systems of our home planet and to prepare candidates with the knowledge and skills needed for the Praxis Earth and Space Science: Content Knowledge (0571) examination. (*Prerequisite: Earth Science I and II*).

GPHY 5365 – Advanced Environmental Science

In a semi-quantitative way, the course presents the earth's atmosphere, basic physical and chemical principles, evolution of the earth, local and regional pollution issues, earth's climate machine, greenhouse warming, ozone layer depletion, and global environmental engineering. *Prerequisites: Physics 2420 and Graduate Status.*

GAQF 5300 – Research Methods and Scientific Writing

The two main objectives of this course are: (1) to familiarize students with planning and execution of scientific experiments and (2) to enable students to convey research results effectively through written communications. Students will learn general principles of scientific writing and how to conduct literature searches. Different formats of written communications pertinent to aquaculturists and fisheries biologists will be examined (e.g. peer-reviewed journal articles, extension and trade publications, government documents). Offered spring semester every year. Lecture: 3 hours per week

Life Science Concentration Course Descriptions

GBIO 5310 - Advanced Biology

Designed to identify and describe selected major biological challenges faced by both plants and animals, and to provide students with an understanding of the diverse ways these challenges are met. The evolutionary and ecological significance of the similarities and differences between plant and animal strategies will be emphasized.

GBIO 5330 – Advanced Cell Biology

Designed to give students an in-depth understanding of advances in cell biology with emphasis on biological membranes, cell-to-cell adhesion, cell signal transduction, receptors, cell cycle control and apoptosis.

GBIO 5320 - Laboratory Experiences/High School Teachers

This is a laboratory course designed to help the student master the biological concepts, equipment, materials, and techniques that he/she will encounter while teaching high school biology. The course emphasizes methods of presentation of curriculum materials, laboratory/classroom safety, use of the microcomputer, and designing, developing, and evaluating laboratory, field, and instructional activities. Students receive significant experiences with live specimen, inquiry and applications of biology.

GCHM 5312 - Advanced Biochemistry* (or GAGR 5400)

An overview of the basic concepts of biochemistry designed for high school biology or chemistry teachers. Proteins, carbohydrates, lipids, nucleic acids, enzymes, metabolism and molecular genetics are covered. *Prerequisite: Organic Chemistry 3420 and Graduate Status.*

GAGR 5400 – Molecular Biology* (or GCHM 5312)

Molecular biology provides an overview of basic molecular process and recombinant DNA technologies that play an important role in forensics, therapeutics, drug discovery and agriculture. This includes: structure and function of DNA, RNA and proteins; DNA replication and repair processes; RNA synthesis and processing; protein synthesis and regulations; and basic recombinant DNA technology.

Physical Science Concentration Course Descriptions**GCHM 5325 – Advanced Chemistry**

Explores special topics selected from the areas of inorganic, analytical, physical, organic, biochemistry or related fields. Required of students seeking a master's degree in General Science Education. *Prerequisite: CHEM 3420 and Graduate Status in General Science Education.*

GCHM 5330 - Methods in High School Chemistry Teaching

Covers content knowledge and pedagogy used in teaching high school chemistry courses. Team taught by faculty from the School of Education and the Department of Chemistry and Physics. *Prerequisite: Chemistry 1440 and Graduate Status.*

GPHY 5355 – Advanced Physics

This course covers laws of planetary motion, kinetic theory of gases, special theory of relativity, electromagnetism, fiber optics, wave mechanics, quantum theory, atomic structure, nuclear structure, piratical physics, and solid state physics. *Prerequisites: Physics 2420 and Graduate Status.*

GCHM – Advanced Biochemistry OR GBIO Advanced Biology (see above)

General Science Electives Course Descriptions

GCHM 5331 – Higher Order Thinking in Science

Designed to introduce middle school or secondary science teachers to modern methods of science instruction. A series of laboratory exercises involving cooperative learning, discovery learning and integrative scientific disciplines are introduced. Candidates may choose to adopt some of these exercises for use in their classrooms. *Prerequisite: In-service science teacher status.*

GCHM 5311 - Advanced Laboratory

Offers experiences and advanced techniques in spectrophotometer, chromatography, high temperature manipulations, non-aqueous solvent systems, electroanalytical methods, and inert atmosphere reactions. *Prerequisite: Inorganic Chemistry 4310.*

GSPS 5346 – Bioinformatics

This is a practical "hands-on" course in bioinformatics that will emphasize how to use computers and the web as tools to analyze and represent large collections of biological sequence and structure data. Prerequisites include a basic understanding of biological sciences and some mathematics and statistics, but no prior knowledge of computer programming or computer hardware is necessary.

GCHM 5335 – Nuclear Chemistry

An overview of the broad field of nuclear and radiochemistry. Emphasis on application of the properties of radioactive nuclei to the solution of the chemical problems. Chemistry, physics, and biology majors may find this course applicable to their curriculum. *Prerequisites: Calculus II 3320, University Physics II 3420, Quantitative Analysis 2430 and Physical Chemistry 4410.*

GCHM 5350 – Chemical Separations

In depth coverage of chemical separations techniques. These separation (and identification) techniques have wide applicability for research and/or industrial chemists. This is an advanced course designed for chemistry majors interested in attending postgraduate schools. *Prerequisites: 2430, and 4440.*

GCHM 5340 - Advanced Organic Chemistry

Detailed study into the mechanisms of organic reactions and synthetic methods. Primarily for chemistry majors interested in attending post graduate school and/or pursuing additional careers in research. *Prerequisites: 3410, 3420, and 4410.*

**MASTER OF EDUCATION IN SECONDARY EDUCATION
(SPECIALTY: MATHEMATICS EDUCATION)**

**School of Arts and Science
Telephone: (870) 575-8053
Fax: (870) 575-8003**

**Dr. Yolanda Page, Ph. D.
*Interim Dean***

**Department of Mathematical Sciences and Technology
Mail Slot 4987
Telephone: (870) 575-8889
Fax: 543-8881**

**Charles Colen, Ph.D.
Chair
(870) 575-8889**

The Master of Education (M.Ed.) degree with a specialty area in mathematics requires a minimum of 36 semester credit hours. Candidates must complete a 6 hour required specialization course, a minimum of 18 hours in the mathematics specialty, and a 12 hour professional education core. Optional: secondary education electives. A written comprehensive examination in the mathematics specialization and the professional education core and/or electives is required. Advanced candidates seeking licensure must also complete the SOE portfolio, courses in Behavior Management and Arkansas History, and the student teaching experience.

MATHEMATICS SPECIALIZATION (18 Hours)

Required Specialization Course Descriptions

GEDU 5391 – Teaching Mathematics in the Secondary School

The Cartesian Plane, first and second degree equations with applications. The limit concept, continuity and topics in the differential and integral calculus. Problem solving techniques involving calculators and computers. Topics in discrete Mathematics.

GAQF 5300 – Research Methods and Scientific Writing

GMTH 5300 - Selected Topics in Mathematics

This course is designed to cover mathematical topics not normally covered in existing courses. Topics are to be developed, written and orally presented. Historical perspectives as well as state of the art contribution to mathematics are expected.

GMTH 5325 - History of Mathematics

A survey course of the development of mathematics from Pythagorean to Euclidean notions to Non-Euclidean notions to physical application of mathematical theories to space exploration in the 20th Century.

GMTH 5330 - Topics in Geometry

An intuitive and explanatory approach in which the discovery method is used through sequence of laboratory activities. On demand.

GMTH 5345 - Probability and Statistics

This course is designed to expose students to probability theory from a historical perspective to modern use, to promote the use of probability and statistical studies and solutions to societal problems, and provide validation techniques.

GMTH 5360 - Mathematical Modeling

Topics may include basic statistical concepts, sampling, linear models and simulation, probability and probability distributions and stochastic processes. Course content will also include topics related to calculus that are of current interest to secondary school teachers. Design of computer algorithms using Fortran/Basic programming languages with primary emphasis on the development of numerical solutions to linear and non-linear systems. Laboratory activities involving a variety of approaches to mathematical models and calculus concepts will be an integral part of the course.

GMTH 5350 - Seminar in the Teaching of Calculus* (or GMTH 5365)

This course in mathematics is for students who plan to teach Calculus at the secondary level. The course consists of the following topics: Logic, Set Relations, Functions, Real Number Systems, Topological of the Real Number Systems, Differentiations, Integrations and Infinite Series with considerable emphasis on technological use. *Prerequisite: Calculus I, II and III.*

GMTH 5365 - Higher Order of Thinking in Mathematics* (or GMTH 5350)

This course will provide mathematics teachers in grades five through college with examples of lessons incorporating methods appropriate for students with different learning styles. These lessons will emphasize the use of manipulatives, hands-on materials, cooperative learning techniques, mathematics software, and the use of graphing and scientific mathematical connections and concepts across grade levels using concrete experiences and bridging to abstract understanding.

GMTH 5370 - Transitions in Mathematics

This course is designed to cover a rigorous development of mathematical concepts and proofs. Coverage will include selected topics in the area of Modern Algebra, Set Theory, and Analysis.

GMTH 5380 - Modern Algebra and Discrete Structures

Structural components of groups, rings, fields and mappings are taught in this course. Historical notes will be contributed as an integral part of the course. Students are expected to develop rigorous mathematical proofs.

**MASTER OF EDUCATION IN SECONDARY EDUCATION
(SPECIALTY: SOCIAL STUDIES EDUCATION)**

**School of Arts and Science
Telephone: (870) 575-8053
Fax: (870) 575-8003**

**Dr. Yolanda Page, Ph. D.
*Interim Dean***

**Department of Social and Behavioral Sciences
Mail Slot 4988
Telephone: (870) 575-8959
Fax: (870) 575 8397**

**Ebo Tei, Ph.D.
Chair
(870) 575-8175**

The Master of Education (M.Ed.) degree with a specialty area in social studies requires 36 semester credit hours. Candidates must complete a minimum of 18 hours in the social studies specialty, a 12 hour professional education core, and 6 hours of secondary education electives. A written comprehensive examination in the general science specialization and the professional education core and/or electives is required. Advanced candidates seeking licensure must also complete the SOE portfolio, courses in Behavior Management and Arkansas History, and the student teaching experience.

Social Studies Specialization Course Descriptions (18 Hours)

GSSC 5300 - Reading Seminar in American History I

Deals with the major historical writers in American history and their interpretations; discusses the principal events in American history from the colonial period to 1865.

GSSC 5301 - Reading Seminar in American History II

Deals with the major historical writers in American history and their interpretations; discusses principal events in American history since 1865.

GSSC 5302 - Seminar in Social Thought

A survey of man's thoughts about himself and his world from Hammurabi to Comte, with special emphasis on the methods of analyses employed in different civilizations.

GSSC 5303 - American Political Thought

Surveys the origin and development of American political concepts and its institutions from the federalist's period to the present.

GSSC 5304 - Readings in African-American History

Readings are designed to trace political, social, and economic development of African-Americans in American history.

GSSC 5305 - Readings Seminar in Western European History

Traces political, social, and economic development in Europe from the ancient period to the present.

GSSC 5306 - Advanced General Sociology

Advanced survey of the discipline and profession of sociology.

GSSC 5307 - Historiography

This course is designed to teach methods of historical research. It also emphasizes bibliography, major writers, and historical schools of thought.

GSSC 5308 - Human Geography

Study of the earth as the home of man. Topics include analysis of settlement and land use patterns, man's physical and cultural environments, population and food distribution, urbanization of population, problems of resource use and environmental pollution.

GSSC 5309 – Topics in Global Studies

An intensive review and analysis of critical global problems and strategies for dealing with them.

MASTER OF ARTS IN TEACHING DEGREE PROGRAM

The Master of Arts in Teaching (M.A.T.) degree is an alternative licensure program where candidates with a provisional teaching license (one of the admission to the program requirements) can gain a master's degree and an initial teaching license while employed as a first year teacher. The MAT requires 36 semester credit hours and offers specialties in middle level education and secondary education. A written comprehensive examination in the specialty courses and educational foundation courses and the Praxis II: Principles of Learning and Teaching are exit requirements.

The M.A.T. degree is designed to be completed during one year: two summer sessions, and a fall and spring session. During that year, a minimum of one M.A.T. course will be dedicated to M.A.T. candidates. One of these course--the M.A.T. Institute--offers instruction in Pathwise, classroom management, teacher professionalism, parental involvement, adolescent development, history and philosophy of education, current issues and trends in education and other such topics as needed for successful teaching. The teaching internships, offered during the fall and spring semesters, allow the novice teachers to demonstrate their knowledge and skills in such areas as teaching and learning styles, lesson design, evaluation techniques and curriculum development in their school settings under the supervision of university faculty. Other traditional and on-line courses will be available for the M.A.T. candidates during the fall, spring and summer sessions.

M.A.T. ADMISSION REQUIREMENTS

This program has special admission requirements. A provisional teaching license and a one year teaching contract with an area middle level or secondary public school is an admission requirement. Middle level candidates must also complete six (6) hours of reading methods courses and a course in Arkansas History prior to program admission. Secondary level candidates must have a bachelor's degree or a minimum of thirty (30) hours in their licensure area. All of the admission requirements are listed below.

Regular (Unconditional) Admission Requirements for MAT Program:

- Letter of Interest
- Resume
- Baccalaureate Degree from an accredited 4-year institution of higher education
- 2.75 Overall Grade Point Average (GPA) or 3.0 in last 60 hours
- Criminal background check
- Passing scores on Praxis I or the Graduate Record Examination
- Passing scores on Praxis II Content Specialty examinations for licensure area
- Undergraduate degree (or 30 hours) in the licensure content area (secondary level)
- Arkansas History and 6 hours reading methods courses which must include a course in methods of teaching reading (middle level)
- Letter of hire from an Arkansas school district (grades five through twelve school)
- Provisional teaching license
- Formal applications—School of Education Graduate Programs and the Master of Arts in Teaching program
- Signed degree plan
- Interview/Disposition Assessment I

- Recommendation by the School of Education’s Admission, Retention, and Exit Committee

OTHER ADMISSION ALTERNATIVES

Candidates for the M.A.T. who fail to meet one or more of the following admission requirements--passing scores on all required parts of the Praxis Series, acquiring a provisional teaching license, and obtaining a letter of hire from an Arkansas school district—may seek conditional admission (*see below*) to one of the other School of Education graduate programs and/or seek a delayed admission to the M.A.T. program once all of the admission requirements have been met.

Conditional Admission

Conditional admission may be granted to candidates who have satisfied all requirements (including prerequisites), but have a grade point average of 2.50 to 2.74. Candidates admitted conditionally may take up to twelve (12) hours of graduate level course work and must earn a grade point average of at least 3.00 during that period. (Candidates granted conditional admission will not be given letters to school districts indicating that they have met admission requirements, enrolled in internships, or admitted to the M.A.T. Institute. Conditional admission only allows for candidates to begin taking on other degree plans.)

RETENTION IN THE M.A.T. PROGRAM

Admission to Degree Candidacy

After regular admission and the completion of twelve (12) hours with a GPA of at least 3.0, a candidate must make a formal application for Admission to Degree Candidacy before continuing in the program. All degree candidacy decisions are recommended by the Office of School of Education Graduate Programs for approval by the School’s Admission, Retention, and Exit Committee. Degree candidacy requires the following:

- (1) graduate status;
- (2) completion of twelve (12) graduate level hours with a GPA of at least 3.0;
- (3) full unconditional admission status in a Master of Arts in Teaching degree program;
 - a) Successful criminal background check
 - b) Passing scores on Praxis I or the Graduate Record Examination
 - c) Passing scores on Praxis II Content Specialty examinations for licensure area
 - d) Undergraduate degree in the content area for licensure (secondary level concentration) or 30 hours in the licensure field
 - e) Completed Arkansas History and reading methods courses (middle level concentration)
 - f) Letter of hire from an Arkansas school district (preschool through grade twelve school)
 - g) Provisional teaching license
 - h) Formal applications—School of Education Graduate Programs and the Master of Arts in Teaching Program

- i) Signed degree plan
- j) Interview/Disposition Assessment II
- k) Recommendation by the School of Education’s Admission, Retention, and Exit Committee

MAT CURRICULUM OUTLINE

The M.A.T. degree plan has two specialties:

Track 1—for those seeking licensure in secondary education content areas

Track 2—for those seeking licensure in middle level education

Track 1 – Secondary Content Area Specialization (36 Hours)

GEDU 5380 Masters of Arts in Teaching Institute (M.A.T. candidates only)	3 hrs.
GEDU 5315 Instructional Technology (on-line) (Prerequisite: Demonstrated Computer Skills)	3 hrs.
GEDU 5364 Teaching Diverse Learners (on-line)	3 hrs.
GEDU 5322 Psychological Foundations of Teaching and Learning (on-line)	3hrs.
GEDU 5336 Assessing Classroom Learning (Prerequisite: Psychological Foundations of Teaching and Learning)	3 hrs.
GRDG 5340 Reading in the Content Areas (Prerequisite: Methods of Teaching Reading)	3 hrs.
GEDU 5320 Application of Statistics/Research in Education (Prerequisite: Nine hours of graduate level courses)	3 hrs.
GEDU 5324 Curriculum Development	3 hrs.
GEDL 5302 Public School Law	3 hrs.
GSPE 5363 Behavior Management	3 hrs.
GEDU 5329 Techniques of Systematic Instructional Development (Internship I)	3 hrs.
GRDG 5360 Reading/Writing Across the Curriculum (Internship II)	3 hrs.

Track 2—Middle Level Education (36 Hours)

GEDU 5380 Masters of Arts in Teaching Institute (M.A.T. candidates only)	3 hrs.
GEDU 5315 Instructional Technology (on-line) (Prerequisite: Demonstrated Computer Skills)	3 hrs.
GEDU 5364 Teaching Diverse Learners (on-line)	3 hrs.
GEDU 5372 School/Parent/Community Resources and Relations	3 hrs.
GRDG 5312 Developmental and Corrective Reading (Prerequisite: Methods of Teaching Reading)	3 hrs.
GRDG 5349 Reading in the Content Areas (Prerequisite: Methods of Teaching Reading)	3 hrs.
GMLE 5304 Middle Level Methods/Materials in Mathematics and Science Or GMLE 5356 Middle Level Methods/Materials in Language Arts/Social Studies	3 hrs.
GEDU 5336 Assessing Classroom Learning (Prerequisite: Middle School Methods: GMLE 5304 or GMLE 5356 or Psychological Foundations of Teaching/Learning)	3 hrs.
GEDL 5302 Public School Law	3 hrs.
GSPE 5363 Behavior Management	3 hrs.
GEDU 5325 The Middle School (Internship I)	3 hrs.

M.A.T. Course Descriptions**GEDU 5380 - Master of Arts in Teaching Institute**

This three-hour teaching and learning institute for MAT majors only is designed to provide novice teachers with the knowledge, skills and dispositions needed to understand and implement instruction. The Pathwise domains, the unit's conceptual framework, state and national standards will serve as the basis for designing instructional strategies, classroom management strategies and parental involvement strategies. Novice teachers will design developmentally appropriate lessons and participate in supervised educational experiences in grade school settings (preschool through grade twelve) during the institute. The professional portfolios will begin in this course. Internship experiences are planned and directed under the guidance of a university supervisor.

GRDG 5340 - Reading in the Content Areas

This course will assist middle level and secondary level candidates in developing an understanding of reading problems encountered by their students in subject-matter reading materials. Candidates will learn how to instruct their students by using research-based strategies that have been successful with helping students to read and comprehend the various texts encountered in middle through high school instruction. Emphasis will be placed on the literacy skills that will enable the grade 5-12 student to develop and use effective reading and writing skills in the content areas. (*Prerequisite: Methods of Teaching Reading*)

GEDU 5320 - Applications of Statistics and Research in Education

This course emphasizes rudimentary statistics, research design and understanding of research leading to a research proposal on a current issue in early childhood, middle level, secondary or special education. *Prerequisites: Nine hours of graduate courses from candidate's degree plan*

GSPE 5363 - Behavior Management

This course emphasizes using theories and principles of behavior management for the improving of student behavior and learning. *Requires a research project.*

GEDU 5324 – Curriculum Development

Consideration of historical, philosophical, and societal impact on the middle level and secondary school curriculum; emphasis upon evaluation and analysis of curriculum development models and the change process.

GEDL 5302 - Public School Law

This course is a study of the legal principles that relate to such matters as authority, responsibility, and liability of principals, teachers, students, and especially those with disabilities, school boards, districts, and state and federal organizations.

GEDU 5336 – Assessing Classroom Learning

This course investigates normative and criterion-references approaches to the assessment of students' progress. Consideration will be given to traditional and alternative methods of assessing student performance and the construction of instructional objectives, lesson plans and

varied test items to assess classroom learning. (*Prerequisite: Middle School Methods of Teaching Course or Psychological Foundations of Teaching and Learning*)

GEDU 5329 –Techniques of Systematic Instructional Development (Secondary Internship I)

Emphasizes teaching strategies such as direct instruction, discovery learning, lesson design, learning styles and modalities, and evaluation strategies. Provisional teachers will be supervised by University and public school teachers who are Pathwise trained during their teaching internship.

GEDU 5322 – Psychological Foundations of Teaching and Learning

In-depth integrated treatment of development and learning with emphasis on cognitive development.

GEDU 5364 - Teaching Diverse Learners

This course examines background, knowledge and insights, and social foundations of education in a culturally diverse society and assists advanced candidates in refining definitions of the role of teachers. It also examines personal beliefs and practices regarding issues of race, language, gender, ethnicity, and exceptionality. Culturally based instructional and curricular adaptations that enhance Candidates' opportunities to succeed are emphasized. *Candidates are required to conduct an in-depth study of a selected topic and report the results of the study orally and in writing.*

GEDU 5315 - Instructional Technology

This course explores media and instructional design with application of state-of-the-art technology for preschool through grade twelve learners as well as for those with exceptionalities. *Prerequisite: EDUC 2312 Computers in Education; EDUC 2309 Utilization/Instructional Media, GEDU 5309 Computer-Assisted Instruction, comparable computer course, or computer skills test.*

GEDU 5372 - School/Family/Community Resources and Relations

This course recognizes the family and community environment as powerful educational influences on students and assists advanced candidates with developing and applying activities and strategies that foster family involvement in a variety of learning settings. The course emphasizes family community resources, effective communication strategies, family activities in formal and informal learning settings, and the roles of the family in governance of organized learning centers and schools. *Requires a research project.*

GRDG 5312 - Developmental and Corrective Reading Process

This course involves an application of learning theory and research findings for diagnosis and remediation of reading difficulties using direct instruction, lesson design and evaluation. *Research and/or clinical experiences are required.*

GRDG 5360 - Reading/Writing Across the Curriculum (Internship II)

Provisional teachers will be supervised by University and public school teachers who are Pathwise trained during their teaching internship.

GMLE 5325 – The Middle School (Internship I)

Treats the unique psychological and physiological needs of middle school children; emphasizes articulation between elementary and high school, and considers appropriate curriculum and proper co-curricular activities. *Provisional teachers will be supervised by University and public school teachers who are Pathwise trained during their teaching internship.*

GMLE 5356 - Middle Level Methods/Materials in Language Arts and Social Studies

This course will assist teachers with strategies and approaches to teaching language arts and social studies using interdisciplinary and traditional approaches that are appropriate for the middle school learner.

GMLE 5304 - Middle Level Methods/Materials in Mathematics and Science

This course will assist teachers with strategies and approaches to teaching mathematics and science using interdisciplinary and traditional approaches that are appropriate for the middle school learner.

EXIT STATUS IN THE M.A.T. PROGRAM

All degree programs require a minimum of 36 graduate hours. Candidates are required to complete the courses as outlined on the degree plan that has been approved by the graduate advisor in order to be granted exit status by the School of Education's Admissions, Retention and Exit Committee. Candidates for the M.A.T. are considered to have reached exit level status once they are enrolled in or have completed 27 hours of the course work from their degree plans. . Candidates who have gained degree candidacy, completed twenty-seven (27) hours or are enrolled in the twenty-seventh hour are eligible to take the examination. The Office of the School of Education Graduate Programs will establish a list of candidates who are eligible to take Graduate Comprehensive Examinations. All of the policies and procedures outlined for the SOE Graduate Comprehensive Examinations section above also apply to the M.A.T. degree program for both the middle level and secondary level specialties. Advisors will assist the candidates in selecting three courses from their program of study for this examination

Exit Requirements

Exit requirements include the following:

- ✓ Admission to Degree Candidacy letter
- ✓ the completion of Praxis II--The Principles of Learning and Teaching
- ✓ the successful completion of the School of Education Graduate Comprehensive Examination
- ✓ the completion of a minimum of 36 graduate-level hours with a cumulative grade point average of 3.00 on an advisor approved degree plan. (No grades below a "C" are acceptable.)
- ✓ Interview/Disposition Assessment III
- ✓ the approval of the Admission, Retention, and Exit Committee

University of Arkansas at Pine Bluff
Division of Graduate Studies and Continuing Education

GRADUATE FACULTY

Instructor Name, Degree, (School from which highest degree was received), Position

Adel, Miah, Ph.D. (Louisiana State University), Professor, Chemistry and Physics

Anderson, Shelbie M., Ph.D. (Kansas State University), Professor, Education

Benjamin, Mary E., Ph.D., (Mississippi State University), Vice Chancellor/Academic Affairs

Buckner, Edmund, Ph.D., (Purdue University), Chairperson, Regulator Science

Butler, Kevin, Ph.D., (University of Missouri), Assistant Professor, Social and Behavioral Sciences

Carroll, Fredda, Ed.D. (Vanderbilt University), Professor, NCATE Coordinator

Chen, Yushun (West Virginia University), Assistant Professor, Level I Graduate Faculty

Chowdhury, Aslam H., Ph.D. (Oklahoma State University, Stillwater), Associate Professor, Physics

Dey, Madan, Ph.D. (University of the Philippines), Professor, Level II Graduate Faculty

Eddings, Ellen, Ed.D., (University of Arkansas at Little Rock), Chairperson, Curriculum and Instruction

Eggleton, Michael, Ph.D. (Mississippi State University), Associate Professor, Level II Graduate Faculty

Engle, Carole, Ph.D. (Auburn University), Director/Professor, Level II Graduate Faculty

Fitzpatrick, Shelton, Ph.D. (Atlanta University), Professor, Biology

Hartfield, Freddie D., Ph.D., (Kansas State University), Professor, Mathematics

Hatchett, Bonnie, Ph.D. (University of Michigan), Associate Professor, Addiction Studies Program

Haukenes, Alf, Ph.D. (University of South Dakota), Assistant Professor, Level II Graduate Faculty.

Herts, George E., Ed.D. (University of Illinois), Chairperson, Elementary, Secondary, and

Special Education/Professor, Education

Hunt, Kami Mays, Ph.D. (University of Memphis), Assistant Professor, Social and Behavioral Sciences

Johnson, Calvin, Ph.D. (Kansas State University), Interim Chancellor

Jones, Verma K., Ph.D. (Iowa State University), Associate Vice Chancellor/Academic Affairs, Industrial Technology

Joshua, Linda, Ph.D. (University of Arkansas), Professor, Coordinator of School of Education's Graduate Programs and University Academic Assessment

Kazi, Abul, Ph.D. (University of Manchester, UK), Professor, Chemistry and Physics

Kelly, Anita, Ph.D. (Southern Illinois University), Extension Aquaculture Specialist, Level II Graduate Faculty.

Kennedy, Glenda, Ed.D. (East Texas State University), Professor, Coordinator Education Technology Center

Khullar, Gurdeep S., Ph.D. (North Texas State University), Professor, Gerontology/Sociology

Lewis, Jerry, Ph.D. (Ohio State University), Director, Addiction Studies Program

Lewis, Therthenia, Assistant Professor, Addiction Studies Program

Linton, Hazel, Ph.D. (Ohio State University), Professor, Education

Lochmann, Rebecca T., Ph.D. (Texas A&M University), Professor, Level II Graduate Faculty

Lochmann, Steve E., Ph.D. (Texas A&M University), Associate Professor, Level II Graduate Faculty

Lorenz, Paul, Ph.D., (University of Houston), Professor, English

Lynch, Michael J., Ph.D. (Texas A & M University), Assistant Professor, Social and Behavioral Sciences (Geography)

Martin, Brenda, Ph.D. (Pennsylvania State), Assistant Professor, Coordinator of Human Science Education, Education

Matute, Martin M., Ph.D. (University of Port Harcourt, Nigeria), Assistant Director, Biology

Miah, Muhammad A., Ph.D. (Louisiana State University), Professor, Physics

Molefe, Daniel F., Ph.D. (Northern Illinois University), Instructor, Aquaculture/Fisheries

Mwasi, Lawrence M., Ph.D. (University of California/Los Angeles), Associate Professor, Biology

Mortazavi, Mansour, Ph.D., (University of Arkansas at Fayetteville), Professor, Chemistry and Physics

Ogundipe, Molar, Ph.D. (University of Leiden), Associate Professor, English

Okere, Lawrence, Ph.D. (University of North Texas), Coordinator/Assistant Professor of Political Science, Social and Behavioral Science.

Owasoyo, Joseph, Ph.D. (University of Kentucky) Professor, Biology

Park, Jeonghwan, Ph.D – (Pukyong University, Busan, South Korea), Assistant Professor, Level I Graduate Faculty

Pfeiffer, Tim, Ph.D. (Louisiana State University), Research Scientist USDA, Agriculture Research Service, Aquaculture/Fisheries

Rice, Antonie Ph.D. (University of Kansas), Associate Professor, Chemistry and Physics

Robillard, Douglas, Jr., Ph.D. (University of Illinois), Associate Professor, English

Stewart, Andrea M., Ph.D. (Howard University), Professor, Social Work

Stone, Nathan, Ph.D. (Auburn University), Extension Fisheries Specialist/Section Leader, Level II Graduate Faculty

Tai, Stephen C., Ph.D. (Northwestern University), Professor, Political Science

Tei, Ebo, Ph.D. (Ohio State University), Chairperson/Professor, Psychology

Toh, Albert K., Ph.D. (University of South Dakota), Associate Professor, Psychology

Troutman, Cynthia, Ph.D. (University of Northern Colorado), Assistant Professor, Addiction Studies Program

Walker, Richard, Ph.D. (University of California at San Francisco), Associate Professor, Chemistry

Wangila, Grant, Ph.D. (University of Alberta), Associate Professor, Chemistry and Physics

Williams, Bettye, Ph.D. (Indiana University of Pennsylvania), Associate Professor, English

Xie, Lin, Ph.D. (Kansas State University), Assistant Professor, Level I Graduate Faculty

UNIVERSITY OF ARKANSAS AT PINE BLUFF

Academic Calendar for 2012 - 2013

Fall Semester - 2012

Faculty Report for Duty	August 16, 2012
Fall Faculty/Staff Seminar/School, Departmental, and Unit Meetings	August 16 - 17, 2012
Fall Faculty/Staff Seminar/Wellness Education Day	August 17, 2012
Dormitories Open for New Freshmen/Welcome Activities Begin	August 17, 2012
New Freshmen Registration Begins (By Alphabetized Schedule)	August 18, 2012
Dormitories Open for Upperclassmen	August 19, 2012
New Freshmen Registration Continues (By Alphabetized Schedule)	August 20, 2012
Returning/Advanced Freshmen Registration Begins	August 21, 2012
Registration for Upperclassmen and Graduate Students Begins	August 21, 2012
First Day of Instruction	August 23, 2012
Late Registration Begins	August 24, 2012
Drop/Add Fees Assessed/Late Registration Continues	August 27, 2012
Last Day to Register/Drop/Add Schedule Change	August 29, 2012
Last Day for Course Cancellation Adjustments	August 31, 2012
Labor Day (No Classes)	September 3, 2012
May 2013 Graduation Application Due in Registrar's Office	September 7, 2012
Non-Attendance Census Report Due in Registrar's Office	September 11, 2012
Mid-Term Examination Week	October 8 - 12, 2012
Delinquent Mid-Term Grades Due	October 15, 2012
Delinquent Mid-Term Grades Distribution to Departments	October 23, 2012
Last Day to Drop a Class(s)/Grade of "W" Awarded	October 31, 2012
Spring 2013 Pre-Registration/Financial & Academic Advisement Week	November 12 - 16, 2012
Thanksgiving Holiday Break (No Classes)	November 22 - 23, 2012
Final Examinations for December 2012 Graduates	November 26 - 30, 2012
Last Day to Withdraw From the University (All Courses)/Grade of "W" Awarded	December 3, 2012
Grades Due for December 2012 Graduates in Registrar's Office	December 3, 2012
Last Day of Instruction	December 5, 2012
Day of Study	December 6, 2012
Common Final Examinations	December 7, 2012
Final Examinations	December 10 - 13, 2012
Fall Commencement**	December 14, 2012

Spring Semester - 2013

Faculty Report for Duty**	January 2, 2013
Registration Begins	January 3, 2013
First Day of Instruction	January 7, 2013
Late Registration Begins	January 8, 2013
Drop/Add Fees Assessed/Late Registration Continues	January 9, 2013
Last Day to Register/Drop/Add Schedule Change	January 11, 2013
Last Day for Course Cancellation Adjustments	January 15, 2013
Martin Luther King, Jr. Holiday Observed (No Classes)	January 21, 2013
Non-Attendance Census Report Due in Registrar's Office	January 24, 2013
Mid-Term Examination Week	March 11 - 15, 2013
Delinquent Mid-Term Grades Due	March 18, 2013
Spring Break Week**	March 18 - 22, 2013

Delinquent Mid-Term Grades Distribution to Departments	March 26, 2013
Last Day to Drop a Class(s)/Grade of "W" Awarded	April 5, 2013
Fall 2013 Pre-Registration/Financial & Academic Advisement Week	April 15 - 19, 2013
Final Examinations for May 2013 Graduates	April 22 - 26, 2013
Last Day to Withdraw From the University (All Courses)/Grade of "W" Awarded	April 29, 2013
Grades Due for May 2013 Graduates in Registrar's Office	May 1, 2013
December 2013 Graduation Application Due in Registrar's Office	May 2, 2013
Last Day of Instruction	May 2, 2013
Day of Study	May 3, 2013
Common Final Examinations	May 6, 2013
Final Examinations	May 8 - 10, 2013
Spring Commencement**	May 11, 2013
Faculty Development Workshop	May 13, 2013
Grades Due in Registrar's Office	May 15, 2013

First Summer Session - 2013

Registration for First and Second Term Begins	May 23, 2013
Memorial Day Observed*	May 27, 2013
First Day of Instruction	May 28, 2013
Late Registration/Last Day to Drop/Add/Register	May 29, 2013
Last Day for Course Cancellation Adjustments	May 30, 2013
Last Day to Drop a Class(s)/Grade of "W" Awarded	June 14, 2013
Last Day to Withdraw From the University (All Courses)/Grade of "W" Awarded	June 20, 2013
Last Day of Instruction/Final Examinations	June 27 - 28, 2013
Grades Due in Registrar's Office	July 2, 2013

Second Summer Session - 2013

First Day of Instruction	July 8, 2013
Late Registration/Last Day to Drop/Add/Register	July 9, 2013
Last Day for Course Cancellation Adjustments	July 10, 2013
Last Day to Drop a Class(s)/Grade of "W" Awarded	July 19, 2013
Last Day to Withdraw From the University (All Courses)/Grade of "W" Awarded	July 26, 2013
Last Day of Instruction/Final Examinations	August 8 - 9, 2013
Grades Due in Registrar's Office	August 12, 2013

***Note: Classes Will Be Held on Friday, May 31, 2013 in lieu of May 27, 2013.**

****Date to be confirmed.**



Division of Graduate Studies and Continuing Education
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