LETTER OF NOTIFICATION – 11

RECONFIGURATION OF EXISTING DEGREE PROGRAMS

(Consolidation or Separation of Degrees to Create New Degree)

1. Institution submitting request: University of Arkansas Fayetteville
2. Contact person/title: Dr. Terry Martin, Senior Vice Provost for Academic Affairs

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1. Title(s) of degree programs to be consolidated/reconfigured: Doctor of Philosophy in

Plant Science (PTSCPH) with concentrations in Plant Pathology and Horticulture and Doctor of Philosophy in Entomology (ENTOPH)

1. Current CIP Code(s)/Current Degree Code(s): 26.0305/7370 (PTSCPH) and 26.0702/7250 (ENTOPH).
2. Proposed title of consolidated/reconfigured program: Doctor of Philosophy in Agricultural, Food and Life Sciences(AFLSPH) with concentrations in:

* Agricultural Education, Communications and Technology
* Entomology
* Horticulture
* Plant Pathology

1. Proposed CIP Code for new program: 01.1101 (Plant Sciences, General)
2. Proposed Effective Date: Fall 2019
3. Reason for proposed program consolidation/reconfiguration:

The agricultural, food, and life sciences are undergoing a significant shift in their use of technology. This shift has led to the need for graduates prepared to enter career fields in which they work collaboratively with professionals in a wider variety of disciplines than ever before. In an effort to best prepare graduates to enter the interdisciplinary agricultural, food, and life sciences workforce, an interdisciplinary Doctor of Philosophy (Ph.D.) degree in Agricultural, Food, and Life Sciences is proposed (AFLSPH). This college-level Ph.D. program, encompassing four concentration areas, will enable faculty from across the Dale Bumpers College of Agricultural, Food, and Life Sciences (Bumpers College) to best prepare students in a wide array of natural and social sciences within agriculture, food and life sciences. Specific concentrations in Agricultural Education, Communications, and Technology (AECT), Entomology, Horticulture, and Plant Pathology allow students to specialize within a specific discipline, while developing a tailored degree program with electives and committee members from other disciplines. Because students will have a discipline-specific concentration embedded within an interdisciplinary degree program, graduates will be well prepared to enter their concentration-related career field, and at the same time, they will be competitive within a cross-disciplinary job market. Furthermore, the structure of the degree program will give the program the flexibility to change as the needs of employers and students change. The program will begin with four concentrations but will offer the opportunity for the creation of new concentrations in subsequent years to address emerging interdisciplinary fields in the agricultural, food and life sciences. Lastly, by merging two existing Ph.D. programs (ENTOPH and PTSCPH), the proposed new Ph.D. program (AFLSPH) will increase the administrative efficiency of our college’s graduate offerings.

Currently, the ENTOPH and PTSCPH programs have 21 students. In the past ten years, all students earning a Ph.D. in Plant Science and Entomology were employed in their respective fields. It is expected that the Plant Pathology concentration will maintain 8 Ph.D.-seeking students, and the Entomology Ph.D. concertation will maintain 6 Ph.D. seeking students. The Horticulture concentration is expected to maintain approximately 3 Ph.D.-seeking students, while the AECT concentration is expected to maintain 2 Ph.D.-seeking students. This will result in the AFLSPH program maintaining a minimum of 19 Ph.D.-seeking students.

1. Provide current and proposed curriculum outline by semester. Indicate total semester credit hours required for the proposed program. Underline new courses and provide new course descriptions. (If existing courses have been modified to create new courses, provide the course name/description for the current/existing courses and indicate the related new/modified courses.) Identify required general education core courses with an asterisk.

CURRENT PROGRAM

**Degree Conferred:** Ph.D. in Plant Science (PTSC)

**Areas of Concentration:** Horticulture, Plant Pathology.

**Program Description:** The doctoral program in Plant Science is an interdepartmental program involving the departments of Plant Pathology and Horticulture.

**Primary Areas of Faculty Research:** Biological control of plant diseases, breeding for disease resistance, fungal biology, diseases of crop plants, mycotoxicology, nematology, physiology of parasitism and resistance, plant disease control, phytobacteriology, soil microbiology, virology, genetics and plant breeding of fruit or vegetable crops, physiology and culture of fruit, vegetable or ornamental plants, and physiology and management of turfgrasses.

**Prerequisites to Degree Program:** In addition to the requirements for admission to the Graduate School, the student must submit to the Chair of Studies a statement of interest, three letters of recommendation, which evaluate the potential of the student to pursue advanced graduate studies, and scores from the Graduate Record Examinations. International students must submit TOEFL scores with their application. Approval by the Plant Science Steering Committee is also necessary for acceptance into the program of study leading to the Doctor of Philosophy degree.

**Admissions Requirements for Entry:** The requirements for admission to the plant science Ph.D. program include the following: completion of an M.S. degree in a relevant biological science with a cumulative grade-point average of 3.00 or better (of 4.00), submission of scores from the verbal, quantitative, and written Graduate Record Examinations (GRE), three letters of recommendation, and official transcripts from all institutions attended.

**Requirements for Doctor of Philosophy Degree:** Each candidate must present a doctoral dissertation based on original research. Course requirements are established by the student’s major adviser and the graduate advisory committee. The student must pass a candidacy examination at least two semesters before the expected conferral date of the degree. A final examination on the doctoral dissertation and cognate areas must be passed at least two weeks before the time of expected degree conferral. Students are expected to maintain a cumulative grade-point average of 2.85 or better (3.00 to graduate) as consistent with the policy of the Graduate School.

Students in the Plant Pathology concentration in the Plant Science program are required to complete three graduate credits in horticulture, six graduate credits in an area appropriate to their dissertation research, two credits in the Plant Science Colloquium, PLPA 5223, PLPA 5303, PLPA 5313, and PLPA 5404. In addition, students are expected to complete three of the four following courses: PLPA 5603, PLPA 6203, PLPA 6303 or PLPA 6503. All students in the plant pathology concentration are expected to attend seminars in both departments and are required to present at least four seminars (while enrolled for credit in PLPA 5001 Seminar (Sp, Fa)) to include the following: a research proposal seminar, two topic seminars on subjects other than their research area and an exit seminar describing the results of their dissertation research. Plant pathology will permit enrollment in one semester in CSES 5103 to be used as a substitute for one of the two topic seminars. All Ph.D. candidates are expected to gain teaching experience by assisting in the teaching of a regularly scheduled plant pathology course for one semester. Students with prior teaching experience can appeal to the Graduate Admissions Committee for a waiver in the Department of Plant Pathology. Additional requirements or waivers from these requirements are available in the Graduate Handbook in Plant Pathology.

Students in the Horticulture Concentration must take at least three graduate course credits in each of the participating departments (horticulture and plant pathology), at least six elective graduate credits outside of the program in an area appropriate to their dissertation research, two semesters (2 credits) in PTSC 6101 Colloquium in Plant Sciences (Sp), one in each department, and students are required to present at least four seminars (while enrolled for credit in HORT 5001 Seminar (Sp, Fa)) to include the following: a research proposal seminar, two topic seminars on subjects other than their research area and an exit seminar describing the results of their dissertation research.

All students will be expected to complete 18 hours of dissertation research.

**PROPOSED PROGRAM**

**Degree Conferred:** Ph.D. (AFLSPH)

**Areas of Concentration:** Agricultural Education, Communications and Technology, Entomology, Horticulture, and Plant Pathology.

**Program Description:** The AFLSPH program prepares students to enter the broad field of agriculture, food and life sciences and to work in interdisciplinary teams related to food crop production, environmental management, pest management and education and communications in agricultural disciplines.

**Prerequisites to Degree Program:** A Master of Science (M.S.) degree is desirable. A student with an exceptional record in academics and/or research may be approved for admission to the AFLSPH program with a Bachelor of Science (B.S.) if the Graduate Student Concentration Admissions Committee of the desired concentration deems them qualified and approval is granted by the AFLSPH Steering Committee. A student admitted to the University of Arkansas, pursuing an M.S. and in good academic standing may apply to be admitted to the AFLSPH program and forgo completing the M.S. degree if so approved by the AFLSPH Steering Committee and the AFLSPH Graduate Concentration Admissions Committee. A minimum grade point average of 3.00 (on a 4.00 scale) on previous college-level course work is required.

**Admissions Requirements for Entry**: To be considered for admission, a student must submit a letter of intent, along with the application for admission indicating the desired degree concentration, areas of interest and career goals. Official transcripts of all previous college-level course work must be submitted. Three letters of recommendation are required. These letters should address the character and academic capability of the applicant. Applications will first be reviewed by the AFLS Steering Committee which will assign the student to the appropriate Graduate Student Concentration Admissions Committee for review. The Concentration Admissions Committee will make the final determination of admittance into the AFLSPH program and the concentration.

Requirements for Doctor of Philosophy Degree: The AFLSPH program requires a total of 72 credit hours after a Bachelor of Science (B.S.) or Bachelor of Arts (B.A.) degree or 42 hours after a Master of Science (M.S.) or Master of Arts (M.S.) degree.

General course requirements for each degree candidate are arranged on an individual basis by the Faculty Advisor, the Graduate Advisory Committee and the candidate in accordance with guidelines of their concentration. Alternate courses may be selected at the discretion of the committee.

All students must complete 6 hours of elective course hours and 2 hours of seminar. One seminar must be a research proposal presentation and the other must be an exit seminar presenting the dissertation research results. All students must complete 18 hours of doctoral dissertation hours. Students entering the AFLSPH program with only a B.S. or B.A. must also complete an additional 30 hours (to reach the 72 hour post B.S./B.A. requirement). Students must satisfactorily pass written and oral candidacy examinations covering their discipline and supporting areas. These examinations must be completed at least one year before completion of the AFLSPH degree program. Each candidate must complete a doctoral dissertation on an important research topic in the concentration field. The specific problem and subject of the dissertation is determined by the Faculty Adviser, the student and the Graduate Advisory Committee. A dissertation title must be submitted to the Dean of the Graduate School at least one year before the dissertation defense. Provisional approval of the dissertation must be given by all members of the Graduate Advisory Committee prior to the dissertation defense. Students must pass the oral defense and examination of the dissertation given by the Graduate Advisory Committee. A student cannot be approved for conferral of the AFLSPH degree until after completion of all coursework, written and oral candidacy exams, the defense passed and dissertation accepted by the Graduate School and an application for the degree has been filed with the Registrar's Office and the fee paid.

In addition to the general requirements for the AFLSPH listed above, students in the Agricultural Education, Communications and Technology concentration must complete 3 professional seminar credits related to research and teaching, 9 graduate credits related to research and/or data analysis (qualitative and quantitative research methods), 3 credit hours in graduate-level courses related to theory appropriate to the student’s discipline, 6 graduate-level elective credits as appropriate to the discipline, and 6 hours of externship credit to be performed outside of the AECT department.

In addition to the general requirements for the AFLSPH listed above, students in the Entomology concentration must complete two semesters of ENTO 6071 (or alternatives approved by the graduate committee), ENTO 5024 (Insect Diversity and Taxonomy), ENTO 5053 (Insect Ecology), ENTO 5153 (Insect Pest Management), ENTO 6113 (Insect Physiology and Molecular Biology) and AGST 5014 (Experimental Design) or a similar graduate-level statistics course.

In addition to the general requirements for the AFLSPH listed above, students in the Horticulture concentration must complete 9 graduate-level credits of courses in Horticulture (HORT).

In addition to the general requirements for the AFLSPH listed above, students in the Plant Pathology concentration must complete PLPA 5303 (Advanced Plant Pathology, Genetics and Physiology), PLPA 5313 (Advanced Plant Pathology, Ecology and Epidemiology), and PLPA 5404 (Diseases of Economic Crops). Students must complete one course from PLPA 5103 (Plant Disease Control) or PLPA 5603 (Plant Pathogenic Fungi), or PLPA 6203 (Plant Virology), or PLPA 6303 (Plant Nematology), or PLPA 6503 (Plant Bacteriology).

1. Provide program budget. Indicate amount of funds available for reallocation.

Because both ENTOPH and PTSCPH (including concentrations in Plant Pathology and Horticulture) programs already exist, it is expected that budget requirements for the proposed program will not be different from the current budget requirements. The AECT concentration does not require the development of any new courses; therefore, no new budget requirements are necessary.

1. Provide current and proposed organizational chart.

The current organizational chart is as below:

The proposed organization chart is as below:

1. Institutional curriculum committee review/approval date: December 5, 2018
2. Are the existing degrees offered off-campus or via distance delivery? No.
3. Will the proposed degree be offered on-campus, off-campus, or via distance delivery? If yes, indicate mode of distance delivery. The degree will be offered on-campus.
4. Provide documentation that proposed program has received full approval by licensure/certification entity, if required. (A program offered for teacher/education administrator licensure must be reviewed/approved by the Arkansas Department of Education prior to consideration by the Coordinating Board; therefore, the Education Protocol Form also must be submitted to ADHE along with the Letter of Notification).

These are not licensure or certification programs.

1. Provide copy of e-mail notification to other institutions in the area of the proposed program and their responses; include your reply to the institutional responses.
2. List institutions offering similar program and identify the institution(s) used as a model to develop the proposed program.

Southern Illinois University – Ph.D. in Agricultural Sciences

Virginia Tech University-Ph.D. in Plant Pathology, Physiology, and Weed Science

Oklahoma State University-Ph.D. in Entomology, Ph.D. in Plant Pathology

Clemson University- Ph.D. in Plant and Environmental Sciences, Ph.D. in Entomology

Louisiana State University-Ph.D. in Plant, Environmental and Soil Sciences, Ph.D. in Entomology

University of Tennessee-Ph.D. in Entomology and Plant Pathology with concentrations in Bioinformatics and Genomics, Entomology, and Plant Pathology

University of Missouri-Ph.D. in Plant Science with concentrations in Crop, Soil and Pest Management, Entomology, Horticulture, Plant Breeding, Genetics and Genomics, and Plant Stress Biology

1. Provide scheduled program review date (within 10 years of program implementation).

2021 (Current for PTSCPH)

1. Provide additional program information if requested by ADHE staff.

President/Chancellor Approval Date: January 21, 2019

Board of Trustees Notification Date: March 28, 2019

Chief Academic Officer: James S. Coleman Date: January 10, 2019