

# AFE's Wildland Fire Academic Program Certification Guidebook *for* University Undergraduate Degrees

## **INTRODUCTION**

This guidebook describes the criteria which the Association for Fire Ecology uses to certify wildland fire academic programs. The overarching goal of this initiative is to:

Foster the growth and longevity of academic programs that promote sound understanding of fundamental principles of fire ecology and management through education, experiential learning opportunities, and training while encouraging the unique approaches to educating the next generation of fire professionals.

Academic programs eligible for consideration may consist of a specified set of courses and /or other work in a degree, option, or concentration that culminates in a student qualifying for a degree (associate, bachelors, masters, or doctorate). Programs should provide a well-rounded and robust educational experience that includes a combination of academics, experiential learning, and training in in the field of fire ecology or fire management.

# **APPLICATION PROCESS**

Institutions applying for certification need to provide evidence within their application demonstrating that students receive a broad educational experience, including experiential learning and training, that encourage a sound education in fire ecology and management. Applications should be completed and submitted using the online form on AFE's website at: <u>fireecology.org/wildland-fire-academic-certification</u>. Each application will be reviewed by a panel of four members consisting of representative from a university and at least one representative from either the public or private land management community. The panel will evaluate all submitted material and generate a preliminary recommendation. In some instances, the review panel may request clarification or additional information concerning the program. A final recommendation for each program will then be submitted to the AFE Board of Directors for approval.

All university undergraduate programs that meet the requirements outlined in this guidebook will receive full recognition as an AFE-Certified Wildland Fire Academic Program for five years. Re-certification requires updated documentation on the criteria as outlined in this guidebook. Where applicable, certified programs will be recognized for particular areas of excellence. This will be determined by the final ratings for each category (see Evaluation Criteria at the end of this document). The area(s) of excellence and a short description of programs will be highlighted on the listing of Certified Wildland Fire Academic Programs on the AFE website.

Programs that do not meet all review criteria to a satisfactory level will not receive certification. In cases where the review panel or AFE board feel that there is insufficient evidence provided in the application, they may contact the applicant to request additional information during the review process. If an applicant is not granted certification, they have 90 days after the award letter is sent out to respond in writing with any grievances with the decision. Grievances should provide additional information that addresses specific areas identified as unsatisfactory and clearly communicates why the evaluation of the program should be reconsidered. All grievances should be sent to <u>Catia Juliana</u>, <u>AFE Co-Director</u>, who will work with the certification review committee, the AFE Education Committee, and the AFE Board to resolve the grievance in a timely manner. All academic programs that are not certified will be provided feedback and encouraged to resubmit their applications in the future. Application fees are non-refundable and non-transferrable.

Public announcement of program certifications will be made annually in December.

# **CERTIFICATION ELEMENTS**

## **Program Description**

Describe the nature of the program with particular emphasis on how it aims to train knowledgeable and competent fire ecology and management professionals. This is an opportunity to highlight program strengths. This section should describe the course of study for the academic program. This could be the same as in the institution's catalog description. Please include a link to the program's website. Other items to include are the number of current students in the program, and recent graduates of the program (last 3 years where applicable). Also, whether or not there is an active SAFE club (if so, provide number of students who are members of SAFE).

Please note that certified programs will be listed on AFE's website and the information we make available to the public about your program is based on your response to this question.

## **Required Areas of Study**

Required courses:

- Fire Ecology 3 semester hour credits
- Fire Science and Management 5 semester hour credits (Fire Behavior, Fuels Management, Fire Use, Fire Suppression, etc.)
- General Ecology 3 semester hour credits (General Ecology, Disturbance Ecology, Natural Resources Ecology, etc.)
- Statistics 2 semester hour credits (at a minimum this should include basic statistical analysis – e.g., ANOVA, correlation)
- Advanced Ecology and Biology 6 semester hour credits (300-level+ in Ecology, Forest Ecology, Wildlife Ecology, Botany, Agrostology, Plant Pathology, Zoology, Entomology, Ecophysiology, etc.)
- Measurement and Analysis 5 semester hour credits (Remote Sensing, GIS, Ecological Modeling, Vegetation Sampling/Mensuration, Biometry, etc.)

 Environmental Sciences – 6 semester hour credits (Meteorology or Climatology preferred; Geology, Hydrology, Soils, Physical Geography, etc.)

Include course descriptions, and syllabi for each course that addresses these requirements. Only courses that are required for completion of the academic program should be included in this section (i.e., optional or elective courses should not be included). In cases where students choose from a defined set of courses to satisfy program requirements, an explanation should be provided as to how any one of the set of courses meets the course requirements listed above. Each 14 hours of class time will be considered to be equivalent to 1 semester credit hour.

All programs must meet the minimum required areas of studies listed above to be considered for certification. Rating for certification will be based on the point system outlined in the Evaluation Criteria, at the end of this document.

## **Faculty and Staffing**

Provide information for up to nine faculty and staff members who directly contribute to the program. List the name, position, the number of full time equivalents provided in the program, list of courses taught in the program (from those listed under the Required Course of Study), and main area of expertise for each faculty or staff. Curriculum vitae for each person listed is required.

As with the Required Areas of Study, all programs must meet the minimum for faculty and staffing, which is the equivalent of 1 FTE (combinations of partial FTEs suffice). Rating for certification will be based on the point system outlined in the Evaluation Criteria, at the end of this document.

#### **Program Features**

#### **EXPERIENTIAL LEARNING**

Experience applying concepts learned in the classroom is crucial for preparing the fire professionals of the future. To demonstrate that students are provided with multiple experiential learning opportunities, applicants are asked to describe 3-6 opportunities that allow students to gain professional experience in fire ecology or fire management and to develop and apply skills and concepts learned in course work. All identified experiential learning opportunities should be clearly linked to and should benefit a student's academic program, and be clearly documented. Examples of experiential learning include, but are not limited to: internships, temporary or permanent jobs, and field and laboratory experiences. Applicants are asked to address three separate sections within this certification element.

1) Are students required to complete professional or work experience requirements (outside of those required in coursework) for graduation from the program? (yes or no, if yes how many hours are required, describe how student learning is documented)

2) Provide at least 3 required academic Laboratory/classroom experiences that all students graduating from the program obtain. Applicants can use entire courses, individual laboratories or individual assignments as examples of required experiential learning opportunities. For each experiential learning opportunity listed, provide the following details: Class name and number, description of experiential learning opportunity, class room or laboratory time spent on identified experiential opportunity, any assignments/points associated with the opportunity.

3) List up to three additional experiential learning opportunities that are not required within the program of study but are made available to students. For each opportunity describe the

opportunity, the number of students impacted, the frequency of the opportunity (i.e. once a semester, once a year) and identify any partners who are involved.

Higher ratings will be given to programs which demonstrate a commitment to experiential learning by formally requiring professional or work experience as a criteria for graduation, and which additionally provide a wide diversity of both required and optional experiential learning opportunities. As well, high ratings will be given to programs which require significant experiential learning opportunities in required course work and additionally provide a wide diversity of optional experiential learning opportunities.

#### WORKING WITH PARTNERS

Describe three to five partnerships that directly impact students and lead to program innovation and increase program effectiveness. For each partnership identified, clearly describe the benefit to students or to the program. Partnerships could include, but are not limited to, working with the Joint Fire Science Program-funded fire science delivery consortia; The Nature Conservancy's Fire Learning Network; collaborative efforts with fire management agencies, organizations, or alumni; and agreements, internships, or field experiences with private companies that conduct fire management activities such as wildfire response or prescribed burning. For each partnership identified, applicants are asked to address the following questions:

- 1. Who is involved in the partnership?
- 2. How long has the partnership been established and at what frequency do activities occur? Give some specific examples.
- 3. What benefits are provided via the partnership to the academic program and to the partners? (Give examples of specific positive outcomes)
- 4. Who are the recipients of the benefits within the academic institution, and how many students are impacted?
- 5. Is participation in the partnership mandatory/required for either students or faculty?

Higher ratings will be given to programs that demonstrate a range of partnerships that directly impact students, lead to program innovation and effectiveness, and provide benefit to the partners.

#### IMPACT AND EFFECTIVENESS

Provide any additional data or other information that will help AFE understand the impact and effectiveness of your program in developing the next generation of fire ecology and fire management professionals. This section is intended to provide programs additional space to cover aspects of their program they consider important measures of program quality not covered in the previous sections. This section should not repeat information provided in other sections. Examples of additional value-added program elements include, but are not limited to:

- Information on subsequent employment of your students in some aspect of the fire ecology or fire management fields
- Professional papers or presentations by students at conferences, schools, or public meetings
- Student involvement in fire ecology/management research
- Student or faculty involvement with professional organizations
- Student outreach and engagement with stakeholders

Higher ratings will be given to programs that demonstrate successful student promotion into professional fire management and fire ecology positions.

# **EVALUATION CRITERIA FOR PROGRAM CERTIFICATION**

Programs recommended for certification must meet a minimum points total **both** for each of the four categories and overall. There are 115 points possible; the minimum required for certification is 80 points. See individual category breakdowns below. Note that within each category, meeting the minimum totals for each bulleted item individually does not meet the category minimum. Similarly, meeting the minimum for every category (70 total) does not meet the overall minimum (80 total).

- **PROGRAM DESCRIPTION:** 10 possible (5 minimum)
- **COURSES:** 50 possible (35 minimum combined for all courses, must include meeting minimums in each category). One semester credit corresponds with one point.
  - **Fire Ecology:** 6 possible (3 minimum)
  - **Fire Science and Management:** 8 possible (5 minimum)
  - General Ecology: 6 possible (3 minimum)
  - **Statistics:** 5 possible (2 minimum)
  - Advanced Ecology and Biology: 9 possible (6 minimum)
  - **Measurement and Analysis:** 8 possible (5 minimum)
  - Environmental Sciences: 8 possible (6 minimum)
- **FACULTY AND STAFFING:** 25 possible (10 minimum) One FTE with a primary focus of fire ecology/fire science is approximately 10 points.
- **OTHER PROGRAM FEATURES**: 30 possible (20 minimum)
  - **Experiential Learning:** 10 possible (5 minimum)
  - **Working with Partners:** 10 possible (5 minimum)
  - **Impact and Effectiveness:** 10 possible (5 minimum)

## **2014 TIMELINE**

Application Deadline: Oct. 15, 2014 Applicants Notified: by Jan 1, 2015