



Wildland Resources--Forestry
PROGRAM REVIEW REPORT
2014 - 2015

Faculty and Staff (List all)

Full Time	Adjunct	Support Staff
Goodman, Robert	Philip Kang - GIS	



Wildland Resources—Forestry

I. Executive Summary

Program Description:

The Wildland Resources and Forestry (WRF) Program provides students majoring within the realm of wildland resources and forestry with a diversity of educational experiences. The courses offered (FOR 101: Introduction to Forestry, FOR 102: Introduction to Forestry Ecology, FOR 103: Plant Identification, FOR 104: Introduction to Outdoor Recreation, FOR 105: Wildland Fire Management, FOR 106: Principles of Wildlife Management and Ecology and ESCI 180: Introduction to Geographical Information Systems) provide the traditional curricular content of forest management, as well as new emerging areas of interest such as ecosystem and resource management, urban forestry, and long-term sustainability to enhance transferability to four-year programs. For students not intending to transfer, but who would like to pursue a professional career within WRF, these courses can be used to obtain a certificate of achievement to enhance their employability with federal, state, county agencies, or the private sector.

Strengths/Effective Practices:

The WRF Program offers general education science courses for transfer credit to four-year colleges and universities, a certificate of achievement within Wildland Resources and Forestry to enhance employability, meets the student learning outcomes and core competencies institutionalized by Citrus College, and provides basic WRF knowledge and skills for students. Program has been enhanced with STEM counseling (Becky lott) working with WRF students to completion/obtaining the certificate of achievement in WRF. Certificate completions are as follows:

7 in 2009-10
 10 in 2010-2011
 15 in 2011-12
 21 in 2012-2013
 16 in 2013-14

Weaknesses/Lessons Learned:

Fall 2014 is the first semester that there was lower numbers in 2 of 4 WRF classes being offered. Will keep in an eye on enrollments and enhance advertisement if continued drop in enrollment.

Recommendations/Next Steps:

Explore the possibility of hiring another full-time faculty member in order to offer more classes in the WRF Program. That faculty member should be able to teach not only the FOR classes, but also the ESCI 180 GIS course.

STEM counseling has been a fantastic asset to the Wildland Resources and Forestry program. Continued funding of STEM counseling should be a priority.



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II. Curriculum

Course Number and Title (Courses must be reviewed every six years to remain active)	Date of last Curriculum Committee Review	2013-2014 Course offerings By Term and # of Sections				SLOs Assessed (Semester / year)
		Summer	Fall	Winter	Spring	
FOR101 Introduction to Forestry	S07	0	1	0	1	Fall 13, Spring 14
FOR102 Introduction to Forest Ecology	S07	0	0	0	1	Spring 13
FOR103 Plant Identification	F10	0	0	0	1	Spring 14
FOR104 Introduction to Outdoor Recreation	S08	0	1	0	0	Fall 13
FOR105 Wildland Fire Management	S07	0	1	0	0	Fall 13
FOR106 Principles of Wildlife Mgmt	S07	0	0	0	0	

III. Degrees and Certificates

Title	Type	Date Approved by Chancellor's Office	Number Awarded 2011	Number Awarded 2012	Number Awarded 2013	Number Awarded 2014
Wildland Resources and Forestry	C	2010	10	15	21	16

TYPE: AA = Associate in Arts AS = Associate in Science Degree C = Certificate S = Skill Award
AA-T = Associate in Arts for Transfer AS-T = Associate in Arts for Transfer

IV. Sections Offered

Review the data sheet for section counts, which includes the following information by course category:

1. Section counts
2. Enrollment by student demographic
3. Success and retention

Provide a brief narrative analysis and describe any trends or concerns you noticed.

Wildland Resources and Forestry classes are offered for the following students:

- Full-time student – can complete the program in 3 semesters (4 classes per Spring/Fall semesters).
- Part-time student – can complete the program in 6 semesters (a different evening class offered each semester).

V. Student Demographics

Review the data sheet for program enrollment, retention, and success which includes data on these metrics by student demographic

Provide a brief narrative analysis and describe any trends or concerns you noticed.

Retention within the WRF program is slightly higher than the campus-wide rates for both semesters:

Fall 2013: Campus 90%; WRF 93%. Spring 2014: Campus 89%; WRF 90%

Success within the WRF program is significantly higher than the campus-wide rates for both semesters:

Fall 2013: Campus 69%; WRF 84%. Spring 2014: Campus 69%; WRF 77%

Student diversity with the program reflect the diversity of the district, though when looking at sex, males are more prevalent in the program than females.

VI. Student Accomplishments

Provide current, interesting information about accomplishments of students who have participated in this program.

For the academic year 13-14, 16 Wildland Resources and Forestry certificates of achievement were obtained. Many of these students directly enter the workforce and contribute to conservation and fire management in Southern California, and/or transfer to a 4-year school.

VII. Student Learning Outcomes Assessment Reflection

Academic Senate Approved 4/11/12

All SLOs for every course will need to be assessed at least once within the 5-year comprehensive program review cycle. Upon reflection with program colleagues (or self-reflection for programs with only one instructor), please provide a brief narrative to the following (at least one row for one SLO needs to be completed for each course at this time):

Complete SLO assessment and analysis in the table at:

<http://intranet/SLO/Pages/default.aspx>

DOCUMENT REFLECTION DISCUSSION BELOW (FOR BOTH SUMMER/FALL 2013 AND WINTER/SPRING 2014)

Based on the SLO data for the 2013-2014 academic year, it is evident that the Wildland Resources and Forestry (WRF) program is having a significant and positive impact on student knowledge and preparation for the next level, either for job placement and/or 4-year college/university. I have seen the WRF certificate program grow tremendously; this is especially evident in the last 6 years with a record number of WRF certificates obtained by WRF students. The SLO data generated in the past year indicate that WRF students are successfully grasping and comprehending key concepts as well as being able to critically think about wildland/upland utilization to facilitate long-term sustainability.



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VIII. Progress toward previous goals

During 2013-2014, we accomplished:

	Previous Goals	Progress/ Persons Responsible	Status	Year 1 Strategic Plan Objectives
Goal 1 2010-11	Funding should continue to provide adequate support of supplies and materials to maintain and enhance the program.	Ongoing. Persons responsible = Goodman/Rabito	N/A	2.2 2.3 3.1
Goal 2 2010-11	Faculty in the program should consider enhancing the Forestry web page in an attempt to increase the visibility of the program.	Still need to meet with TECS about enhancing the WRF website. Person responsible = Goodman	P	1.1 2.3 6.1
Goal 4 2010-11	Develop new articulation agreements with California State University, Humboldt.	Contacted Cal State Humboldt about articulation. Forwarded the information to Michelle Plug. Still waiting for details. Person responsible = Goodman/Rabito	P	2.2.6 2.3
Goal 5 2010-11	Incorporate coursework from natural history into a new A.S. degree in Wildland Resources and Forestry.	A.S. in Wildland Resources and Forestry to be completed by Fall 2013 or Spring 2014. Person responsible = Goodman	P	1.1 2.3
Goal 6 2010-11	Faculty in the program should assess equipment and supply needs on an annual basis.	Ongoing every semester. Person responsible = Goodman/Rabito	I	3.1 3.1.4 5.2.1
Goal 7 2010-11	Faculty should continue to be actively involved with Cal Poly San Luis Obispo's Natural Resources and Forestry Advisory Committee.	Complete. Robert Goodman is currently a member of Cal Poly SLO's Natural Resources and Forestry Advisory Committee. 2006-present.	C	2.2.6 6.1.1

	Previous Goals	Progress/ Persons Responsible	Status	Year 1 Strategic Plan Objectives
Goal 9 2010-11	Faculty within the program are encouraged to pursue additional cooperative educational opportunities for students throughout the academic year.	Have multiple options to incorporate students into local agencies to obtain experience and knowledge in the WRF realm, but currently not feasible at this time due to budget constraints. Person responsible = Goodman/Rabito	I	1.1.1 1.2 2.2.6
Goal 12 2010-11	When budgetary considerations allow, consider offering an additional Forestry 101 section in the evening to meet student need and increase student enrollment in the program.	Person responsible = Goodman/Rabito	P	1.1.1 2.2.6 2.3
	Previous Goals	Progress/ Persons Responsible	Status	Year 1 Strategic Plan Objectives
Goal 13 2010-11	Review current library resources and update current needs.	Schedule meeting with Library Resources personnel to determine WRF needs provided by library. Person responsible = Goodman	P	1.2 3.1

	Description	Actions / Target Date	Status	Year 1 Strategic Plan Objectives**
Goal 2 2011	Work on inviting more guest speakers from different agencies.	Identify potential guest speakers and check for availability. Spring, 2012	C	1.1 2.2 6.1
Goal 1 2012	Update Curriculum and SLO language.	Goodman Fall 2013	C	1.2.3

In addition to previous goals, during 2014-2015, we plan to:

	Description	Actions / Target Date	Institutional Goal**
Goal 1	Continue to increase the number of certificates obtained per year	Continued advertisement and attracting students to program. Goodman Fall 2015	1.1 2.1
Goal 2	Update Curriculum and SLO language.	Goodman Continuous	1.2.3
Goal 3	Reinstate the Forestry Co-ops	Rabito/Goodman Fall 2015	1.1 3.1 6.1
Goal 4			

**For instutional goals visit link below.*

<http://www.citruscollege.edu/admin/planning/Documents/StrategicPlan2011-2016.pdf>

***For Educational and Facilities Master Plan, use table below.*

EFMP 1 – Create an associate degree in Wildland Resources and Forestry
EFMP 2 – Create a classroom environment specific to Wildland Resources and Forestry
EFMP 3 – Use the greenhouse to grow native plants which then could be planted around campus to enhance the campus’s eco-friendliness
EFMP 4 – Recruit Students into the program who have completed a biological and/or physical sciences course in order to enhance successful course and program completion



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IX. Budget Recommendations for 2014-2015

(Add rows or attach additional pages as needed for complete description / discussion)

Certificated Personnel (FNIC)

Position	Discuss impact on goals / SLOs	Impact	Priority
	NONE REQUESTED		

Classified Personnel

Position	Discuss impact on goals / SLOs	Impact	Priority
	NONE REQUESTED		

Staff Development (Division)

Item	Discuss impact on goals / SLOs	Cost	Impact	Priority
	NONE REQUESTED			

Facilities (Facilities)

Describe repairs or modifications needed	Discuss impact on goals / SLOs	Building / Room	Impact	Priority
	NONE REQUESTED			

Computers / Software (Tecs)

Item	Discuss impact on goals / SLOs	Cost	Impact	Priority
	NONE REQUESTED			

Equipment

Item	Discuss impact on goals / SLOs	Cost	Impact	Priority
	NONE REQUESTED			

Supplies (Division)

Item	Discuss impact on goals / SLOs	Cost	Impact	Priority
	NONE REQUESTED			

General Budget Guidelines

Budget Preparation Tips:

- Include items on the budget form that are needed for program success even if there is no financial need associated with the request (ie training that could be accomplished with on-campus resources, sharing of resources with another discipline or department etc.)
- Whenever possible, obtain actual cost for the items / equipment you wish to purchase. This avoids situations where items are considered for purchase but it is determined that the actual cost greatly exceeds the original estimate.
- Identify unit cost (cost per item) and the number of units desired in requests.
- Indicate if there is a lower level of financial support that would be workable in your educational plan – if you request \$30,000 for a classroom set of equipment (one item for each student), if \$15,000 were available, would it be possible for two students to share an item? Is the request “All or nothing”?

Determining Budget Impact:

Indicate one or more of the following areas that your request will affect:

M = Mission: Does the request assist the program in meeting the District’s mission and established core competencies and / or diversity?

N = Need: Does the request assist the program in addressing needs based on labor market data, enrollment, articulation, advisory committee, regional agreements, etc.?

Q = Quality: Does the request assist the program in continuing or establishing appropriate lecture/lab unit values? Will the request assist in the regular reviewed / updated of course outlines? Is faculty development adequate? Does program need support in addressing the State and District emphasis on critical thinking, problem solving and written expression? Does program need support to meet stated objectives in the form of SLOs? Do course pre-requisites and co-requisites need to be validated?

F = Feasibility: Does the request assist the program maintain adequate facilities, equipment, and library resources? Is there a need for repair or modification of facilities? Is there a need for new equipment or supplies? Are course offerings frequent enough for students to make adequate progress in both day and evening programs? Does the program have adequate communication with & support from Counseling?

C = Compliance: Does the request assist the program in meeting Federal, State & District requirements? (Do the course outlines meet state, district & federal regulations for content? Do vocational programs have regular advisory meetings?)

Budget Priorities:

When establishing priority, consider the following:

Priority 1: This item is mandated by law, rule, or district policy.

Priority 2: This item is essential to program success.

Priority 3: This item is necessary to maintain / improve program student learning outcomes.



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X. Career Technical Education

TOP CODE: 0114 FORESTRY

1. Advisory Committee meeting date(s): July 18, 2013

2. Advisory Committee recommendations

1.	Support an AS in Wildland Resources and Forestry not only for transfer but also to attract more students to the program
2.	Support the addition of Natural History to the Wildland Resources and Forestry certificate of achievement
3.	Support the formation of an addition class called Field Techniques – for students to learn with hands on experience in the field
4.	Would like to see the Forestry Co-ops to return so students can get more “hands on” experience
5.	Would like to see continued volunteerism with the WRF program and USFS and other agencies

3. Are these Advisory Committee minutes on file with Academic Affairs?

YES X NO _____

4. Vocational Funds

Source	Purpose	Amount
N/A	N/A	N/A

5. Labor Market Data 2008 – 2018

(California Employment Department Labor Market Information for Los Angeles County)

Occupation	Soc Code	Employment Estimated	Employment Projected	Change
Forestry	19-1032	100	120	20%
Forest and Conservation Technicians	19-4093	770	790	2.6%
Conservation Scientists (for the state of California – disaggregated data for Los Angeles County unavailable)	19-1031	1,900	2,200	15.8%
Soil and Plant Scientists (for the state of California – disaggregated)	19-1013	1,900	2,400	26.3%

data for Los Angeles County unavailable)				
Natural Sciences Managers	11-9121	960	1,120	16.7%
Farming, Fishing, and Forestry Supervisors	45-1011	390	420	7.7%
Fire Fighters	33-2011	7,930	9,440	19%

6. Discuss demand for workers in this TOP code based on CA Employment Development Department Labor Market Information for Los Angeles County and Advisory Committee input. Describe the rationale for use of data regarding additional geographic areas.

Job opportunities are projected to increase in all aspects of Wildland Resources and Forestry. The advisory committee recognizes, from a forestry perspective, that the “green” industry has seen a significant downturn due to the drop in the housing market. That, in turn, has made jobs in the forestry industry difficult to come by. At some point, the market should improve and the demand for trained people in these fields will increase again. Wildland Resources and Forestry students are exposed to the common elements that exist within City, County, State, Federal, and private sector Forestry and Wildland. These skills are applicable in many Sectors of the Global Economy.

Core 1 - Skill Attainment, GPA 2.0 & Above:

Core 2 - Completions, Certificates, Degrees and Transfer Ready :)

Core 3 - Persistence in Higher Education :)

Core 4 - Employment: 79.86% Performance Goal

Core 5 - Training Leading to Non-traditional Employment:

Source: CCCC MIS Database, EDD Base Wage File, CSU Chancellor's Office, UC Office of the President, 2000 Census, Student Loan Clearing House

CORE INDICATORS

Indicator	2009-10 (Actual)	2010-11 (Actual)	2011-12 (Actual)	2012-13 (Proposed)	2013-14 (Planning)
1. Technical Skill Attainment	81.48	84.38	88.24	82.35	87.50
2. Credential, Certificate, or Degree	78.95	90.91	55.56	71.43	100.00
3. Persistence or Transfer	76.00	90.63	73.53	81.82	97.44
4. Placement	88.24	77.78	76.92	67.75	87.50
5. Nontraditional Participation	29.63	15.63	26.47	17.65	27.50
6. Nontraditional Completion	33.33	15.38	23.08	11.76	35.71

Total Count is 10 or Greater

Total Count is Less Than 10

Core 1 - Skill Attainment, GPA 2.0 & Above:

Core 2 - Completions, Certificates, Degrees and Transfer Ready :)

Core 3 - Persistence in Higher Education :)

Core 4 - Employment: 79.86% Performance Goal

Core 5 - Training Leading to Non-traditional Employment:

Source: CCCCCO MIS Database, EDD Base Wage File, CSU Chancellor's Office, UC Office of the President, 2000 Census, Student Loan Clearing House

CITRUS COLLEGE Negotiated Level	2009-10	2010-11	2011-12	2012-13	2013-14
1. Technical Skill Attainment	92.46%	87.93%	88.81%	88.82%	87.27%
2. Credential, Certificate, or Degree	66.13%	78.95%	82.05%	80.93%	81.50%
3. Persistence or Transfer	82.18%	83.62%	85.96%	85.86%	86.50%
4. Placement	79.86%	80.33%	82.21%	81.48%	76.97%
5. Nontraditional Participation	12.58%	19.05%	20.37%	22.08%	22.60%
6. Nontraditional Completion	12.02%	19.72%	22.10%	25.00%	26.50%