

Assessment: Program Review Update



Program (AG) - Pest Control Advisor Preparation - Cert CT.3450

Program Catalog Summary:

Certificate:

SC Program: CT.3450

PROGRAM DESCRIPTION: Pest Control Advisors (PCAs) are licensed professional production consultants who serve California agriculture, natural resource and horticulture producers. PCAs specialize in pest management, but they are also an important resource to producers in a wide range of production concerns related to plant health. This certificate satisfies the core-course requirements specified for option "3. b" in preparing to take the Pest Control Advisor's exam with the California Department of Pesticide Regulation. The following courses need to be completed with a 2.0 grade point average or better. Note: In addition to completing the course work, the Department of Pesticide Regulation requires PCA exam applicants to have completed 24 months of technical work experience before taking the exam.

This certificate is approved through the California Community College Chancellor's Office. Upon satisfactory completion of the listed requirements and filing an application for graduation with Admissions and Records, the student's transcript will reflect completion of this certificate.

PROGRAM LEARNING OUTCOMES:

Upon successful completion of the certificate, the student should be able to:

1. Demonstrate the ability to communicate with clients, assess pest damage for ecological and economic sustainability, determine thresholds and implement IPM practices based on client/crop needs.
2. Explain and apply basic principles of soils, cation exchange capacity, entomology and botany to horticulture practices and pesticide mode of action.
3. Be prepared to take the California Pesticide Applicators Certificate Exam with the California Department of Pesticide Regulation
4. Demonstrate application of pesticides in a safe manner, include selecting proper PPE, mixing, calibration and application.

REQUIREMENTS FOR CERTIFICATE:

To prepare for the PCA exam, students will need to complete 42 units of the required curricula specified in the core-curricula areas below with a 2.0 grade point or better in each course.

CATEGORY 1: PHYSICAL AND BIOLOGICAL SCIENCES:

Choose 12 units from the following courses: 12

- AGNR 60 Environmental Science (3)
- AGNR 65 Forest Ecology (3)
- AGPS 20 Plant Science (4)
- BIOL 1# Principles of Biology (4)
- BIOL 10 General Biology Lecture (3)
- BIOL 10L General Biology Lab (1)
- BIOL 12 Field Biology (4)
- BOT 1# General Botany (4)
- CHEM 2B# Intro to Organic Chemistry and Biochemistry (5)
- CHEM 6 Intro to Chemistry Applied to the Environment (4)
- CHEM 26 Fundamentals of Gen, Organic, and Biochem (4)

CHEM 70 or 71# Organic Chemistry (4)

MICR 1# Microbiology (5)

ZOOL 1# General Zoology

CATEGORY 2: CROP HEALTH:

AGEH 31# Landscape Irrigation 3

AGNR 70 Wildlife Conservation and Management 3 AGPS 24 Soils 3

CATEGORY 3: PEST MANAGEMENT AND METHODS:

AGEH 26 Integrated Pest Management 3

AGEH 61 Plant Protection Materials 3

CATEGORY 4: PRODUCTION SYSTEMS: 6

Choose 6 units from the following courses:

AGAS 11 Livestock Feeding and Nutrition (3)

AGAS 19 Principles of Animal Science (3)

AGAS 30 Livestock Production (3)

AGEH 10 Plant Identification and Usage (3)

AGEH 22 Nursery Practices and Plant Propagation (2)

AGEH 33 Environmental Horticulture (3)

AGEH 38 Landscape and Turf Management (3)

AGEH 60 Master Gardener Training (3)

AGEH 71/72 Organic Gardening (1 each)

AGNR 4 Introduction to Range Sciences (3)

AGNR 53 Forest Protection and Restoration (3)

AGNR 55 Introduction to Forest Operations (3)

AGVIT 81 Vineyard Care (1)

RESTRICTED ELECTIVES: 9

Complete an additional 9 units from Categories 2-4 above

#Indicates at least one prerequisite is required.

TOTAL UNITS FOR CERTIFICATE: 42

Fall 2018

PRIOR PROGRAM REVIEW REFLECTION (If applicable)

Discuss any changes to the program as a result of the previous program review: This is a new program So I do not have a previous program review to consult.

CURRENT PROGRAM REVIEW

Who completed this form: Leimone Waite

Participation in completing this report: Area Faculty (list in the next box), Advisory Committee (if one exists)

Summarize participation comments: Advisory committee says there is an increased need for pest control advisors with the legalization of cannabis. Advisory committee also felt students need to know more about nutrient management.

Discuss some of the program successes and benefits to the students and/or community: 100% of our graduates taking the pest control advisors exam have passed.

List each PLO and write a brief narrative summary analysis discussing outcomes for each of them.: Communication and Recommendations

- Need to improve how we track this PLO, SLO's from courses are not well aligned to allow for good data collection. Also need to adjust the rubric used in scoring this SLO to help students better understand what is required of them on the assignment
PCA Exam

-Students have excelled in this area, passing this PLO with an average of 94%. Students have been able to apply knowledge to passing both the applicators and Pest Control Adviser exams with the California Department of Pesticide Regulation Pesticide Applicators Certificate preparation- All students who have attempted the Pesticide Applicators Exam have passed on the first try. This tells us that we are preparing them well to pass this exam. This is not an easy exam to pass.

Basic principles of plant, soil and pesticide interaction-This is an area where students continue to struggle, only an average of 66% success rate for the past couple of years for students attempting this PLO. This course is taught on line during the spring of each year and students struggle with this modality. Some of the data was difficult to track as the SLOs is not well aligned with the PLO. Have changed the SLO in Plant Science and will work with instructor in AGEH 33 to change the SLO to better track how each student is passing this this PLO

Safe use of Pesticides-Students in the AGEH 38 class passed this PLO with 100%. However results from AGEH 26 were not available for assessing this PLO. We need to have a better method of tracking data for this PLO and to have more than one class SLO be the determining factor for this PLO

Describe how this program supports a transfer pathway to CSU or UC: This is not a direct transfer certificate but we have quite a few students choosing to take most of the courses within this certificate and then transfer to CSU, Chico to obtain a Bachelor's Degree. Once they graduate they are taking the Pest Control advisor exams and passing.

Specify Labor Market Demand (for CTE programs): There is no data specific to Pest Control Advisor as they are lumped in with Plant Science Professionals, however, there is data for pesticide handlers which would be a first or second year job for graduates of our PCA prep. certificate as they were working on their two years of work experience needed in order to qualify with the state of California to take the PCA exam. This data shows a projected 12% growth in jobs for pesticide handlers and an average wage of \$21.03 per hour for the next two years

PROGRAM DATA ANALYSIS

Program Effectiveness: As this is a new program we have only had a few graduates in the past two years, however, we have had 5 additional students complete most of the course work for this Certificate and then transfer to CSU, Chico to obtain a Bachelor's degree. They then went on to test for the Pest Control Advisors license by going this route they do not have to have two years of work experience. They are currently working in as Pest Control Advisors.

Program Effectiveness (CTE): 100% of the students completing this certificate have been able to find employment in the Pest Control field quickly. All had jobs waiting for them as soon as they graduated. This program needs to be better advertised. It is a fairly new program and we better promotional materials and program guides for counselors and students.

Course Success Rates: Course success rates are good except in AGEH 61 Plant Protection Materials this course has a 5 year average success rate of 65%. This may be because this is a fully online course and students do seem to struggle more with the online mode of instruction.

Course Retention Rates: Course retention rates were above the college benchmark of 80%.

Course Enrollments: Course enrollments average 26 per section in AGPS class which is very good considering that two of the three classes have limited lab space that keeps enrollments at 25 per section. Enrollments in AGEH classes for this program averaged 19 students per section.

Equity: There is not a lot of data available on equity. However our student population in this program is about equal male and female with about a 10% fluctuation in gender equality depending on the semester. Students in the plant science classes are 15% more ethnically diverse then the tri-county population and students in the Horticulture classes show approximately 10% more diversity than our tri-county district's general population. The age of students in this program show more than 60% of the students are less than 24 years of age in AGPS classes and 35% of students are less than 24 years of age in AGEH classes.

CURRICULUM

Review of courses with prerequisites: Only one with prerequisites are in science area.

Challenges to offering key courses: The California Department of Pesticide regulation dictates which course will qualify for the area of study within this certificate and they change these requirements every couple of years so it is challenging to keep curriculum updated.

Course changes: There needs to be some updates done to the course lists within this certificate. In the core courses AGNR 70 needs to be replaced with AGPS 25 or AGEH 10 because the DPR has reclassified these courses for different categories.

SUMMARY

Changes or improvements needed based on the analysis above: The following changes need to be made:

1. Update course lists to match Department of Pesticide Regulations mandated area of study.

2. Create website and brochure for the program.
3. Update the suggest program sequence for this certificate.

Note any resources you intend to request through the Area Planning process to improve the program: Resources needed for brochure and web page.

****BELOW TO BE COMPLETED BY THE PROGRAM REVIEW COMMITTEE****

COURSE STATISTICS

		Academic Year				
Course Name		2012-13	2013-14	2014-15	2015-16	2016-17
AGNR-60	# of Sections	16	11	11	7	10
	Enrollment	367	267	288	257	254
	FTES	34.4	26.8	26.6	24.1	23.9
	FTEF	1.97	1.60	1.60	1.40	1.40
	WSCH	1,049	819	813	738	728
	Avg Enrl/Section	23	24	26	37	25
	Avg FTES FTEF	15.40	16.00	16.13	17.21	16.00
	Avg WSCH FTEF	471	489	493	527	488
AGNR-65	# of Sections	1	1	1		1
	Enrollment	24	17	26		19
	FTES	4.1	2.9	4.3		3.3
	FTEF	0.28	0.28	0.28		0.28
	WSCH	123	87	129		98
	Avg Enrl/Section	24	17	26		19
	Avg FTES FTEF	14.12	9.99	14.72		11.19
	Avg WSCH FTEF	434	307	455		346
AGPS-20	# of Sections	1	3	1	1	1
	Enrollment	26	44	31	30	28
	FTES	4.6	6.8	5.8	5.8	5.8
	FTEF	0.35	1.05	0.35	0.35	0.35
	WSCH	138	204	174	174	174
	Avg Enrl/Section	26	15	31	30	28
	Avg FTES FTEF	13.14	6.50	16.57	16.57	16.57
	Avg WSCH FTEF	394	194	497	497	497
BIOL-1	# of Sections	2	2	2	2	2
	Enrollment	63	56	55	43	47
	FTES	17.1	13.6	14.4	11.2	11.7
	FTEF	0.87	0.87	0.87	0.87	0.87
	WSCH	512	408	432	336	352
	Avg Enrl/Section	32	28	28	22	24
	Avg FTES FTEF	19.69	15.69	16.62	12.92	13.54
	Avg WSCH FTEF	591	471	498	388	406
BIOL-10	# of Sections	13	12	12	12	11
	Enrollment	365	457	459	453	453
	FTES	67.8	46.2	43.0	43.0	43.4
	FTEF	3.20	1.95	1.80	1.77	1.76
	WSCH	2,033	1,391	1,295	1,295	1,309
	Avg Enrl/Section	28	38	38	38	41
	Avg FTES FTEF	24.62	22.72	22.44	22.65	23.28
	Avg WSCH FTEF	740	687	678	684	704
BIOL-10L	# of Sections		11	12	12	12
	Enrollment		276	313	337	310
	FTES		25.7	28.4	31.8	29.1

	FTEF		1.65	1.80	1.80	1.80
	WSCH		771	851	955	872
	Avg Enrl/Section		25	26	28	26
	Avg FTES FTEF		15.58	15.72	17.65	16.11
	Avg WSCH FTEF		467	473	531	484
BIOL-12	# of Sections					1
	Enrollment					27
	FTES					2.7
	FTEF					0.20
	WSCH					83
	Avg Enrl/Section					27
	Avg FTES FTEF					13.50
	Avg WSCH FTEF					415
BOT-1	# of Sections	1	2	2	2	2
	Enrollment	37	63	64	58	63
	FTES	9.1	15.7	14.4	14.4	14.9
	FTEF	0.43	0.87	0.87	0.87	0.87
	WSCH	272	472	432	432	448
	Avg Enrl/Section	37	32	32	29	32
	Avg FTES FTEF	20.93	18.15	16.62	16.62	17.23
	Avg WSCH FTEF	628	545	498	498	517
CHEM-2B	# of Sections	4	4	3	3	3
	Enrollment	101	76	56	63	69
	FTES	20.0	16.3	10.9	11.5	11.5
	FTEF	1.27	1.27	0.98	0.92	0.92
	WSCH	656	490	368	381	390
	Avg Enrl/Section	25	19	19	21	23
	Avg FTES FTEF	17.54	13.41	12.74	15.22	15.55
	Avg WSCH FTEF	560	403	416	486	502
CHEM-26	# of Sections	1	1	1		
	Enrollment	21	23	16		
	FTES	2.0	2.5	1.5		
	FTEF	0.27	0.27	0.27		
	WSCH	62	78	45		
	Avg Enrl/Section	21	23	16		
	Avg FTES FTEF	7.50	9.49	5.51		
	Avg WSCH FTEF	232	292	169		
CHEM-70	# of Sections	1	1	1	1	1
	Enrollment	34	29	31	28	39
	FTES	4.5	3.7	4.1	3.7	4.8
	FTEF	0.27	0.27	0.27	0.27	0.27
	WSCH	136	112	124	112	144
	Avg Enrl/Section	34	29	31	28	39
	Avg FTES FTEF	16.99	13.99	15.49	13.99	18.00
	Avg WSCH FTEF	510	420	465	420	540
CHEM-71	# of Sections	1	1	1	1	1
	Enrollment	23	18	24	17	15

	FTES	2.3	1.6	2.4	1.6	1.5
	FTEF	0.20	0.20	0.20	0.20	0.20
	WSCH	69	48	72	48	45
	Avg Enrl/Section	23	18	24	17	15
	Avg FTES FTEF	11.50	8.00	12.00	8.00	7.50
	Avg WSCH FTEF	345	240	360	240	225
MICR-1	# of Sections	7	8	7	8	6
	Enrollment	216	205	196	207	176
	FTES	61.2	58.5	56.7	58.5	46.8
	FTEF	2.90	3.40	2.90	3.40	2.60
	WSCH	1,836	1,755	1,701	1,754	1,404
	Avg Enrl/Section	31	26	28	26	29
	Avg FTES FTEF	22.51	18.08	20.31	18.28	19.60
	Avg WSCH FTEF	675	544	609	550	588
ZOOL-1	# of Sections	2	2	2	2	2
	Enrollment	71	72	63	62	68
	FTES	16.0	17.9	14.9	15.7	16.8
	FTEF	0.87	0.87	0.87	0.87	0.87
	WSCH	480	536	448	472	504
	Avg Enrl/Section	36	36	32	31	34
	Avg FTES FTEF	18.46	20.62	17.23	18.15	19.39
	Avg WSCH FTEF	554	619	517	545	582
Grand Total	# of Sections	50	59	56	51	53
	Enrollment	1,196	1,181	1,167	1,113	1,134
	FTES	243.0	238.3	227.3	221.3	216.2
	FTEF	12.87	14.53	13.05	12.70	12.37
	WSCH	7,366	7,171	6,884	6,697	6,551
	Avg Enrl/Section	24	20	21	22	21
	Avg FTES FTEF	19.48	16.45	17.31	17.96	17.63
	Avg WSCH FTEF	590	496	524	544	534