

# Santa Rosa Junior College

## Program Resource Planning Process

### Agriculture 2016

#### 1.1a Mission

The mission of the Santa Rosa Junior College Agriculture/Natural Resources Department is to increase the knowledge, improve the skills, and enhance the lives of those served by its programs, preparing leaders in agriculture, food systems, and natural resources who are equipped to address the diverse food, fiber and fuel needs of society. The department has a diverse program offering of approximately 204 courses that include curriculum in Sustainable Agriculture, Environmental Conservation, Wine Studies, Viticulture, Agribusiness, Ag Science, Environmental Horticulture, Veterinary Technician, Animal Science, and Equine Science. Last year these programs served approximately 3,759 students, the largest and most diversified community college Agriculture/Natural Resources Department in California.

#### 1.1b Mission Alignment

The Santa Rosa Junior College Agriculture and Natural Resources Department's mission matches the most fundamental goal of the college: "to promote student learning throughout our diverse communities by increasing the knowledge, improving the skills and enhancing the lives of those who participate in our programs and enroll in our courses." The Santa Rosa Junior College Agriculture and Natural Resources Department's mission matches the District's responsibility to provide lower division academic education, to support transfer to four-year institutions, and career and technical education, to support economic development and job growth. In fulfilling the Ag/NR Department mission, we are committed to the following district objectives:

1. Serve the educational needs of our students and our community through a diversity of programs and courses that maintain high academic standards and develop its respect for learning in all of our students.
2. Offering courses and programs which reflect academic excellence and integrity and which serve the variety of needs, career pathways, and abilities of our students.
3. Identifying student learning outcomes for courses, programs, certificates, and degrees; assessing student achievement of those outcomes; and using those assessment results to improve effectiveness.
4. Responding to economic, demographic, and technological changes through educational program development and staff development.
5. Helping students succeed in meeting their educational goals by providing comprehensive instructional and student support services.
6. Challenging students to participate fully in the learning process by teaching students to be responsible for their academic success.

7. Preparing our students for participation as citizens at the local, national and global levels.
8. Promoting awareness of and maintaining sensitivity to ethnic, cultural and gender diversity within our student body, faculty, staff, administration and course offerings.
9. Promoting open access through actively eliminating barriers to a college education and services.
10. Contributing to the cultural life of our community by presenting enrichment opportunities to our students and community members.
11. Attracting and retaining faculty and staff who are highly qualified, knowledgeable and current in their fields.
12. Practicing responsible participatory governance within the institution through processes that are inclusive and respectful of all participants and in which information and decision-making are shared.
13. Maintaining the stability of our institution by exercising our public responsibility for sound resource development and use in order to meet our commitments to the citizens of the District.
14. Promoting and maintaining a safe learning and working environment.
15. Reviewing our mission statement periodically with participation by students, faculty, staff, and administration.

The Santa Rosa Junior College Agriculture and Natural Resource Department's mission is also consistent with the District's 2011-2012 initiatives/goals:

#### **I. Re-Engineering**

In 2010-2012 the department participated in the following re-engineering activities: an Ag/NR department AA III position was reduced from 100% to 80%.

Additionally, in 2012-2013 the department agreed to reduce this position from an AA III to AA II as a district cost saving measure. Unfortunately this reduction is still up for debate and accordingly has resulted in the position being only filled by an STNC over the 2012-2013 school year. At Shone Farm a Livestock Tech I position that supports instruction and Shone Farm operations was increased from 60% to 100%, resulting in District cost savings and redirecting staffing to critically needed areas. Shone Farm's AAIL was also increased from 60% to 80%.

Additionally, in 2011 Welding was reengineered to the Industrial Trade Tech Department. This move has helped to improve the ability of the department chair to realistically fulfill duties, as the release time granted (78%) is now under the 80% maximum allotted.

#### **II. Multi-Campus Coordination**

The Ag/NR Department offers courses at Petaluma, Santa Rosa, and Shone Farm. Faculty, staff and management work diligently to ensure there is effective communication amongst the various sites. Coordination efforts are implemented via a master calendar, monthly meetings, and phone/email communication as needed.

#### **V. Student Learning Outcomes and Assessment**

Course level Student Learning Outcomes (SLOs) were developed for all 204 courses. Program Learning Outcomes and MAPs have been developed and approved for all departmental certificates and associate degrees.

Learning Assessment Projects (LAPS) have been completed for 33 courses. As of Spring 2013, an additional 9 LAPS have been identified and are expected for completion in May 2013 (For additional information regarding specific courses please see PRPP Section 4).

## **VII. Enrollment Management & Retention**

Due to the district wide mandates to *more effectively target courses to student needs* with the objective of *increasing student enrollment and student success*, the Ag/NR Department has worked diligently to assist the college in assuring more effective enrollment and retention of students. Unfortunately, the reduction in FTEF is particularly difficult for Ag/NR occupational programs that don't offer multiple sections of courses. Accordingly, to respond to District needs, the each program in the department has implemented course rotation sequences, which were previously unnecessary. Because of this newly implemented procedural process, the Ag/NR Department is closely monitoring the results of district budget reductions on enrollment. Further reductions on the department will most likely result in the inability of students to complete their certificates/degrees in a 2 year process.

### *D. Improve K-16 articulation.*

The SRJC Agriculture/Natural Resources Department has continued with major curriculum work in each of its program areas to meet the California Community College Agriculture Core Course Model Programs. SRJC Agriculture & Natural Resources program coordinators and instructors meet annually with community college, CSU, and UC instructors to collaborate on curriculum within each discipline. These courses follow a statewide articulation numbering system with CC, CSU, and UC agriculture courses statewide. Some of these courses also satisfy General Education requirements and UC/CSU numbered status. All Ag/NR courses went through major updates and revision (particularly in regards to "greening" the curriculum), with the addition of Student Learning Outcomes (SLOs). Many Agriculture and Natural Resources Programs have a transfer track to CSU and UC agriculture majors. Additionally, the certificate programs continue to be enhanced to meet the local employer and industry needs in the community. Program advisory committees were utilized for the review and approval process in the development of the Ag/NR Department master plan. During the California Agricultural Teacher Association quarterly meetings, Tech Prep and/or career pathways are discussed with local high schools and the Agriculture and Natural Resources Department. In 2012, the department in coordination with the SRJC Manager of School Initiatives & Career Pathway Development looked into articulating AGRI 20-Plant Science with local highschools. Unfortunately after review of the high school course outlines, it was determined that the high school courses were not equivalent to SRJC's course offering. Due to the lecture/laboratory format at SRJC and the need to maintain the caliber of instruction required to ensure our articulation agreement with UC and CSUs, it is unlikely articulation will be achieved.

### *E. Develop an annual strategic course offerings plan that meets student priority needs and achieves optimal enrollment funding.*

Due to the district wide mandates, the department has implemented course rotation sequences, which were previously unnecessary. Program coordinators monitor their enrollment and retention, and update their course rotation sequences accordingly on an annual basis.

## **VIII. Integrated Environmental Planning**

The Shone Farm serves primarily as an outdoor laboratory site for Agriculture and Natural Resource classes. Nearly every student has the opportunity to learn through participation in the instructional activities of Shone Farm during his or her tenure at SRJC - this is about 33% of the total FTES reported for all of the Ag/NR courses, a number which has steadily grown year after year, despite the reduction in course offerings. It is also an opportunity for students to learn about sustainable farming practices and how the different ag disciplines are integrated in an outdoor lab setting. Moreover, students not only learn skills related to their discipline, but also how to make important business management decisions through sales of farm products off the 365 acres of Shone Farm that includes:

- 70 acres Premium Wine Grapes (chardonnay, sauvignon blanc, syrah, merlot, pinot noir, pinot blanc)
- 120 acres of forest (Douglas Fir, Redwood, Monterey Pine)
- 50 acres of multi use land
- 100 acres of pasture land (35 beef cattle, 35 ewes and ~20 horses annually)
- 14 acre Sustainable Agriculture Unit (market garden/crop production area, greenhouse, 2 acres organic apples and 2 acres of organic olives).

Discussions with faculty and staff have led to a future vision for the farm to become a demonstration site for emerging technologies related to environmental education and sustainable agriculture.

### **1.1c Description**

#### **1. Curriculum**

The SRJC Agriculture/Natural Resources Department teaches credit courses in Animal Science, Equine Science, Veterinary Technology, Viticulture, Agribusiness, Sustainable Agriculture, Wine Studies, Environmental Horticulture, Natural Resources, and Recreation Management. During the 2013-14 school year the Ag/NR Department served 3,000 students, and showed a steady increase from the previous year.

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and UC/CSU numbered status. All courses in the department went through significant revisions (particularly in "greening" the curriculum) with the addition of Student Learning Outcomes (SLOs). New courses were also recently developed in Sustainable Agriculture. Many Agriculture and Natural Resources Programs have a transfer tract to CSU and UC agriculture majors.

The majors and certificate programs were reviewed/revised to meet the local employer and industry needs in the community. Program advisory committees were utilized for the review and approval process.

## **2. Facilities**

### **Shone Farm**

The Shone Farm totals 365 acres and includes:

- 80 acres Premium Wine Grapes (Chardonnay, Sauvignon blanc, Syrah, and Pinot noir)
- 120 acres forest (Douglas Fir, Redwood, Monterey Pine)
- 50 acres of multi use land
- 100 acres of pasture land (35 beef cattle, 35 ewes and 20 horses annually)
- 14 acre Sustainable Agriculture Unit (market garden, crop production area, greenhouse, 2 acre organic apples and 2 acres of organic olives)

The Agriculture/Natural Resources Department's 365-acre self-sustaining Shone Farm, has been integral to the laboratory "learn by doing" philosophy of the instructional program of the department. All of the science based instructional programs- animal science, general agriculture, equine science, veterinary technician, sustainable agriculture, viticulture, wine studies, and natural resources use the diverse farm entities extensively within their programs. The Agribusiness Program uses the farm with the Agriculture Leadership class' Agriculture Ambassador Program.

Shone Farm has a variety of areas for students of SRJC to gain knowledge, training and the skill needed today in the following fields of study:

- Viticulture - Projects include pruning, vine training, irrigation management, pest & disease control, soil evaluations, canopy management, vine balance assessment, crop projection and budget development.
- Animal & Equine Science – Shone Farm is home to herds of cattle, sheep and horses, and on occasion, as student enterprise projects, flocks of laying hens and broiler birds. Students are actively involved in grooming, lambing, calving, breeding, feeding, marketing, record keeping and maintenance practices.
- Veterinary Technician - Utilizing the livestock resources, veterinary technician students are involved in vaccinating, parasite control, first aid, and general health care practices.

- Sustainable Ag – Crop work includes propagation of plants, planting, weeding, fertilizing, irrigation, composting, harvesting, packing, and marketing and distribution of products.
- Natural Resource Management– Students map and stake out boundaries and trails, work on erosion control, maintenance of new and existing trails, and preservation of the natural forest environment, including fuel reduction.

Students can be a part of the Shone Farm crew by participating in one of the following programs:

- Student Resident: Live at Shone Farm in exchange for 12 hours of work/week.
- Work Study – Aimed at those students who already have some prior knowledge of the area they are to work. These students can earn credit as well as income for their work on the farm.
- Student Employee: Work 6 - 20 hours/week for pay.
- Intern/Special Studies: Earn college credits for time spent on the Farm. Credits awarded depend on amount and quality of work.
- Enterprise Project: Work on an income generating project while allowing students to further their education.

In addition to Shone Farm's outdoor environment, students gain knowledge, training and skills necessary to be successful in their chosen career path by using the additional Shone Farm facilities:

- The Belden Center provides shop space, offices, dorm room, kitchen and a meeting room
- Richard L. Thomas Classroom provides a high tech teaching facility.
- Warren G. Dutton Jr., Agriculture Pavilion, a multi-purpose educational facility houses an indoor arena, bonded wine laboratory, commercial kitchen, processing facilities, dorm room and educational meeting rooms.
- The Porter Barn includes a multitude of feeding, care, & restraint facilities for the Animal Science program.
- The Equine Unit which consists of the Russ Gleason Memorial Arena, 18 stalls mare motel, round pen, G.K Hardt stable, and newly installed hot walker. All of these facilities support equine classes, clinics, workshops, and agricultural field days helping to guide students as they pursue their education and career skills training. The Equine Science Unit at Shone Farm is also a valuable asset to meet the needs of an extensive population of equine enthusiast in Sonoma County, which has the second largest horse population in the state of California. The facility is available for use to serve as a location for clinics, competitions and other functions.

Historically in the past there had also been community usage of Shone Farm for Community Education courses. The Community Education program (Fees range from \$45 to \$150) had included courses on trailer safety, bits and saddle fit, natural horsemanship, horse rescue techniques, trail riding, communicating with your horse, horse handling, horsemanship and and equine acupuncture and massage. Due to the economic

downturn and the cost prohibitive overhead charged by the Community Education program, these offerings have been curtailed. Utilization of Shone Farm has also increased with rental of the Dutton Pavilion to community organizations for such events as the Guys Can Cook Too dinner (held by the Rotary Club of Sebastopol Sunrise,) the Leadership Santa Rosa event held by the Santa Rosa Chamber of Commerce, Slow Food Fundraising dinner held by the Slow Food Russian River Organization, and the Farrier Certification testing held by the Western States Farrier Association.

Extensive time has been spent developing an inventory of Shone Farm equipment and tack. Additionally, due to the extensive community support of contributions of equipment, livestock, and labor, significant time has been invested by faculty in developing contractual agreements for potential donations. Legal documents have also been developed by faculty to address stable use, premise use agreements, rental agreement policies, code of conduct agreements, and fee schedules.

During 2009-2011, a Master Plan was developed for the department, including a Business Strategy for Shone Farm. The Master Plan is intended to address various elements: staffing, facilities, resources, and utilization of the farm by the instructional program. The Business Strategy also outlines some short-term opportunities for revenue enhancement and some longer-term strategies for realizing the farm's potential.

### **Computer Laboratory**

The computer laboratory in room 2060 of Lark Hall has historically served students both in course offerings and in "open laboratory" usage. Used primarily for Agribusiness courses, courses in GIS, integrated pest management, animal science, horticulture, natural resources, equine science and other agriculture courses are now also heavily using this classroom. The heavy usage has impacted the department both in staffing and supply expenses, for the department budget has not been increased to support these additional costs. With adequate staffing the Lark Hall computer lab could be of service to the whole campus as a resource as an "open laboratory".

### **Greenhouse/Nursery Compound**

The greenhouse/nursery compound on campus has been in disrepair and neglect after 34 years of operation. The unit still serves over 700 students yearly in a myriad of Environmental Horticultural, Agriculture, Sustainable Agriculture and Viticulture classes, plant sale production, and supporting campus by growing oak seedlings and a limited number of plants for SRJC Grounds. The unit has not had any significant capital improvements to the facility since the unit was built with the construction of the Lark Hall facility. Due to the delapidated conditions of this unit, serious safety issues have arisen, including student trip and slip hazards, structural collapse and other hazards associated with a glass enclosed compound. The compound is ill suited for the commercial cultural practices associated with the nursery operations such as planting, thinning, transplanting, potting, and other operations. The unit is in need of equipment associated with the nursery operations as well as the landscaping operations.

conducted on campus. The unit needs to conform with current industry standards with energy efficiency and materials and conservation processes. Additionally, there is a major need for the unit to have greenhouse/nursery staffing for the full year. The current Environmental Horticulture instructors' time is being taxed with supervision of student part-time employees of the unit. The Environmental Horticulture advisory committee feels that improvement of the facilities and staffing of this unit is essential for the college to maintain the standards and reputation of the SRJC Environmental Horticulture program. In order to raise funds for a the program, the Environmental Horticulture program coordinator, in conjunction with students from the classes, have implemented a plant sales program, selling landscape shrubs and perennials, as well as greenhouse foliage and potted color. Plants are also being marketed in the SRJC bookstore. Initial plans have been developed to build a new state-of-the art horticulture/nursery facility, which would meet the needs of horticulture students for the next several decades.

### **Laboratory Classrooms**

Approximately 3,759 students in the department, and seven full time instructors and approximately 50 adjunct instructors utilize the laboratory classrooms in the Lark Hall complex. The classrooms are used from early in the morning to late at night with classes ranging from Soils to Vet Practices to Sensory Evaluation of Wines. The classrooms surround a "Central Supply" area which houses laboratory supplies and equipment for the instructors. The 1979 design of the complex was one of the best-designed occupational learning facilities in the state of California. But, as teaching styles change over thirty four years, facilities should change to accommodate innovations in instruction. The twenty five year old classrooms need major remodeling to include movable workstations and seating, replacement of chalkboards, and enhanced lighting. A new laboratory classroom has been added to the facilities request to address student growth requirements in the Lark classroom area.

### **3. Student Organizations**

The Santa Rosa Junior College Agriculture/Natural Resources Department has one of the strongest student leadership organizations in California, the Agriculture Ambassadors, which is the oldest and largest club on campus with a annual membership of approximately 50 students. The purpose of the SRJC Ag Ambassadors is to: foster, promote, maintain, and support students in agriculture; assist and guide them in becoming more responsible, involved, and knowledgeable in the area of agriculture; enrich students' experiences as part of the total college experience; promote service to the college and the community; and to emphasize the development of leadership, character, and judgment. The students represent a diversity of ag disciplines, interested in improving their leadership skills and participating in community activities. They attend a multitude of leadership conferences in collaboration with the Collegiate Agriculture Leaders Organization (CAL). The collegiate agriculture leaders compete statewide in collegiate contests such as college bowl, prepared and extemporaneous speaking, sales, Farm Bureau discussion meet and other leadership oriented competitions. The SRJC Agriculture Ambassadors' major activity focus is agriculture literacy, which consists of outreach programs to high school and elementary schools in the



North Coast Counties. Additionally, the Ag Ambassadors benefit SRJC students at large by participating in the SRJC Club Days, Career Fair, Shone Farm Fall Open House, Thank a Farmer Feed to provide 800 free meals to the campus community, and the Ag/NR Department fundraising for Agstravaganza. Ag Ambassadors also participate in numerous community outreach events, including the Farm Bureau Crab Feed, Sonoma County Farm Bureau Ag Days, Napa County Ag Days, Sonoma County Harvest Fair, Sonoma County FFA Speaking Contest, North Coast Region Best Informed Greenhand Contest, State FFA Convention Career Fair, Young Farmers and Ranchers, 4H Chicken-Q, and the Sonoma County Livestock Judging Clinic and Contest.

In 2010 a new Agriculture/Natural Resources student organization emerged, Students for Sustainable Communities. This club is aimed at exploring how to make our campus community align with environmental conservation. The club works to promote greening our campus, become leaders in sustainable education, and create an all around more sustainable community. One of their first projects was a pilot project that took part in greening the new Bertolini building, which opened Spring semester 2010. Efforts will help make the new building become a guiding example for the campus and beyond. Some of the basic ideas are "to make sure the building is using less, recycling and composting as much as possible, and wasting as little as possible.

In 2011, another new Agriculture/Natural Resources student organization emerged, The Sustainable Agriculture Club. The mission of SRJC's Sustainable Agriculture club is to support the learning and implementation of sustainable agricultural practices among the community, provide an academic resource for students, and to promote SRJC's Sustainable Agriculture program.

#### **4. Faculty Professional Development and Community Involvement**

The department also maintains a high professional profile in industry and community associations. In almost all of the industry program areas, you will see a Santa Rosa Junior College Agriculture/Natural Resources faculty member actively involved with that industry. From the Sonoma County Harvest Fair Board to The Russian River Grape Growers, Santa Rosa Junior College Ag/NR faculty and staff are dedicated to serving the community they represent.

Professional organizations which our instructors belong to include:

- Australian Society for Viticulture and Oenology
- California Association of Pest Control Advisors
- Board Member, Sonoma County Vineyard Technical Group
- Sierra Club
- National Wildlife Federation
- National Association for Interpreters
- Park Rangers Association of California
- American Society of Animal Science
- Sonoma County Farm Bureau
- American Society for Enology and Viticulture
- Sonoma County Winegrape Commission
- Russian River Valley Winegrowers Assoc
- Association of Veterinary Technician Educators
- American Veterinary Medical Association

- Redwood Empire Veterinary medical Association
- Association of Reptilian and Amphibian Veterinarians
- Redwood Empire Veterinary Technician Association
- California Agricultural Teachers' Association
- Sonoma County Woolgrowers Association
- Sonoma Marin Cattlewomen
- Sonoma County Farm Trails, Board Member
- Community Alliance with Family Farmers
- American Horticultural Society
- California Association of Nursery & Garden Centers
- California Landscape Contractors Association
- International Plant Propagators Association
- Association of Professional Landscape Designers
- Wildlife Society - Western Section
- Petaluma Wildlife Museum - Board Members

Departmentally individuals participate in a large number of local community events, including the:

- Sonoma County Farm Bureau Crab Feed
- Sonoma County Fair Solicitors Dinner
- Sonoma County Farm Trails Tours
- Marin Ag Land Trust (MALT) Dinner
- Sonoma County Purebred Sheep Breeders Meetings
- Napa County Ag Days
- Sonoma County Ag Days
- Sonoma Marin Ag Days
- 4-H Chickenque
- Sonoma County FFA Project Competition Judging
- Harvest Fair
- Sustainable Agriculture North Bay Panel Discussion
- Advisory input for the Santa Rosa High School Agriculture Program
- Advisory Input for the Elsie Allen Ag Boosters
- Guest Speaker for the Sonoma County Master Gardeners
- Guest Speaker for the Wildlife Society: Western Section Symposium
- Guest Speaker for Wildlife Rehabilitators Annual Conference

To allow the community to become acquainted with our skills, departmentally we are also engaged in the following activities:

- Authored articles for the Sonoma County Farm Bureau Newsletter
- Dairy, Beef & Round Robin Judge at Napa County Fair, Redwood Empire Fair & Sonoma County Fairs
- Commentator and Carcass Contest Judge for Beef and Sheep at Sonoma County Fair
- Guest speaker at Redwood Empire Veterinary Medical Association meetings
- Guest speaker at Marin Veterinary Medical Association meeting

- Planning & implementation of the Sonoma County livestock judging clinic & contest
- Pruning contest for the Russian River Valley Pruning Contest
- Sonoma County Grape Day UCCE Seminar
- SCWC "Agricultural Labor Compliance Workshop"
- SCWC "IPM/Organic Grower Field Day"
- Judge Healdsburg Science Fair
- Advisory input for Windsor Institute for Sustainability and the Environments
- Advisory input for Project Learning Tree
- Participate on the SRJC Institute for Environmental Education Committee
- Participate on the Pepperwood Educational Committee
- Organized and serve on board of the Redwood Empire Veterinary Technician Association
- Hosted Shone Farm Fall Open House

In reviewing community outreach, we feel confident that by attending and participating in these events departmentally we demonstrate to the college and the community a committed effort towards supporting and promoting agriculture and the natural resources of Sonoma County.

Clinics/Seminars/Conferences which instructors have recently attended include:

- Sonoma County Winegrape Commission (SCWC) Seminar and Annual Update
- American Society for Enology and Viticulture Annual Conference
- Temple Grandin, Animal Welfare Update Seminar
- California Agriculture Teachers Association Annual Conference: The department maintains a high professional profile and plays an active role in the California Agriculture Teachers Association (CATA). In 2003 & 2010, the SRJC Agriculture/Natural Resources Department received the California Community College Agricultural Association's Most Outstanding Community College Program Award. The department has a former CATA President and a California Community College State Chair on its current staff. The majority of the faculty regularly attends the section, regional, and state activities of the association.

There has also been additional usage of Shone farm for community activities supporting 4H/FFA field days, short courses, and annual industry meetings, such as the:

- SRJC Livestock Judging Clinic - At this annual event, over 150 new and returning livestock judging enthusiasts improve their judging skills for use in livestock judging contests or selection of fair animals. Utilizing classes of Sheep, Beef, Swine and Meat Goats, generously provided by soliciting the agricultural community, the SRJC Livestock Judging Team provides workshops to local youth who want to improve their livestock evaluation skills. In addition, oral reasons and note taking are reviewed. The Santa Rosa Junior College Ag Ambassadors also offer a food booth for snacking opportunities. Proceeds benefit the SRJC Agriculture and Natural Resources programs and Shone Farm.

- Annual Santa Rosa Junior College Invitational Project Lamb and Meat Goat Sale - The day offers over 500 buyers the chance to participate in seminars given on sheep and meat goat selection, showmanship, and fitting, as well as the Ethics and Quality Assurance seminar required for State Fair Exhibitors. At the event, the Santa Rosa Junior College Ag Ambassadors also offer a concession stand for lunch. Following the sale there is a Jackpot show of purchased lambs, evaluated by a nationally recognized judge. Proceeds from this event benefit the SRJC Agriculture and Natural Resources programs and Shone Farm.
- SRJC Livestock Judging Contest - At this Annual Sonoma County event, 9 classes of beef, sheep, swine and meat goats are provided from the agricultural community. Awards are handed out, including buckles for the high individual in junior 4-H, senior 4-H, and FFA. At the event, the Santa Rosa Junior College Ag Ambassadors also offer a food booth for snacking opportunities. Proceeds from this event benefit the SRJC Agriculture and Natural Resources programs and Shone Farm.
- Santa Rosa Junior College Shone Farm Fall Open House- This event was hosted for the first time in 2011 with over 700 participants. In 2012, over 2000 participants came out to this festive, carnival atmosphere with tasty Shone Farm refreshments and fun activities for the whole family including a vegetable and pumpkin U-pick, tomato sling shot, wine tasting, chicken races and tractor rides, which showcased Shone Farm and our instructional programs. Proceeds from this event benefit the SRJC Agriculture and Natural Resources programs and Shone Farm.
- The Sonoma County Pruning Championship - This event serves as a valuable marketing and educational tool dedicated to the promotion of Sonoma County as one of the world's premier grape growing regions. Additionally this event helps to increase awareness and recognition of the quality and diversity of Shone Farm's vineyard, grapes and wines
- Various tours of Shone Farm - Guided by Ag/NR Department faculty, staff and students, tours of Shone Farm's outdoor learning laboratory facility are provided to various community entities with the goal of these presentations being to educate students about Shone Farm, the Agriculture Ambassadors, and SRJC's Ag/NR programs.
- There has also been a substantial increase in grant funded projects that utilize Shone Farm. One grant acquired by the Sustainable Agriculture program for 2010-2011 was a Felton Foundation Grant for \$25,000, aimed at developing a Shone Farm marketing plan. Additionally, a USDA Farmers Market Promotion Program grant was awarded in 2011 in the amount of \$65,719 over 2 years, aimed at promoting Shone Farm products. This grant was completed September 2012. Additionally, the Ag Department, the SRJC Small Business Development Center and the Latino Service Providers collaborated with the University of California Cooperative Extension (the lead agency) on a \$750,000 grant aimed at training beginning future ranchers and farmers. The USDA Beginning Farmers and Ranchers grant runs October 2011-August 2014, using Shone Farm resources at least once a month during the 6 month instructional periods. The final grant awarded in the Sustainable Agriculture program came from the CCC Chancellor's Office. This \$20,914 Collaborative Sustainable Agriculture Grant was aimed at providing elementary school children exposure to sustainable agriculture. Funding was used to provide visits to Shone Farm and a 2 week long intensive

summer academy for local high school students. Additional grants that have been submitted but not yet awarded as of Spring 2013, include:

- NSF-ATE grant for \$200,000 (July 2013 - June 2016) to improve pathways in Sustainable Agriculture Education for the North Bay Region of California
- Specialty Crops Block Grant Program (October 2013-June 2016) to  
1. Train the next generation of farmer for the growing California olive oil industry (\$385,211) 2. Innovative Specialty Crops Oriented Program in Education (\$398,925).

Industry networking is also evident from the successful fund raising efforts for the instructional programs. Most notable of the fund raising efforts is through the SRJC Foundations' Ag Trust, which is a committee of 20 community members and SRJC faculty /staff whose focus is to encourage financial support of the Agriculture and Natural Resources Department at Santa Rosa Junior College. Since 1969, the department's program expansion, student enrollments, and resources have grown to keep pace with the agriculture needs of Sonoma County; unfortunately, district support has not been able to keep up with the resultant growth. Accordingly, the SRJC Foundation Ag Trust was established in 1998, with the purpose of raising funds for the benefit of the department and its students. With the success of working with major gift partners, fun and exciting fundraising events, & annual contributions from individual and business donors, the SRJC Foundation AG Trust has raised over \$1,000,000 and is able to fund a wide variety of annual projects benefiting the Agriculture and Natural Resources Department and students. In addition to raising funds for the benefit of Agriculture and Natural Resources Department for annual funding needs through the Ag Trust Fund, the SRJC Foundation Ag Trust is currently working on building two endowment funds for the long-term benefit of the department and its students: the Warren G. Dutton Jr. Endowment for the Future of Agriculture and the Steve Olson Outstanding Agricultural Scholar-Leader Award. Funding from the Ag Trust would not be possible were it not for the tremendous amounts of hours put in by the SRJC faculty chairing a number of committees required to put on the Agstravaganza fundraising event. For example, Pj LoCoco's committee spent over 700 hours chairing/designing/constructing/deassembling the decorations for the 2008 Steve Olson Agstravaganza event. Casey Cole served as co-chair for the auction and food committees, and served as chair for food service to the VIP tables. Bob Fraser served as chair of the wine service for the VIP tables and generously provided wines from the San Francisco Wine Chronicle Competition. Involvement at this level required immense input of time and resources, and obviously indicates a strong commitment by the faculty to the success of SRJC's Ag/NR Department.

Starting in 2011 an additional activity which utilized faculty time was requests made by the Shone Farm Foundation for departmental and program updates. Each meeting the Foundation requested a program coordinator come to their quarterly meetings to provide a presentation regarding their use of Shone Farm. Starting 2012, an additional activity which utilized faculty time and resources, was the Viticulture Advisory Committee recommended winery appreciation luncheon. This event was strongly pushed by the viticulture advisory committee to acknowledge and thank the Sonoma County viticulture community for their tremendous support of the Shone Farm vineyards. While these requests of

faculty resources and time are obviously worthwhile endeavors, unfortunately the department does not have the staffing or financial resources necessary to provide the continued list of requests, as they are already overwhelmed with program coordination and instructional obligations in a time of diminishing resources. Outside district requests are certainly something in the future that are going to have to be reevaluated prior to recommitting to such endeavors.

### 1.1d Hours of Office Operation and Service by Location

The Agriculture and Natural Resource Department has day and evening classes, Monday through Sunday on both the Santa Rosa and Petaluma campuses as well as at the Shone Farm in Forestville. Many classes are also offered during weekends. Historically the Ag/NR offices were served by an administrative assistant for 40 hours per week. Starting February 2011, the administrative assistant hours for the Ag/NR Department were permanently reduced to 32 hours/week (80% time). Due to an extended maternity leave request and the resulting abdication, starting in 2011, the Ag/NR Department offices were staffed by an STNC administrative assistant. Departmentally in an effort to have permanent coverage and administrative pressure the department's AAIII position was proposed for reduction to an AAI position. Unfortunately this has locked the position in classified human resource negotiations, resulting in continued staffing by an STNC. Staffing by an STNC has placed a tremendous burden of additional responsibilities on already overloaded department chair. Ideally this position would resume to a fully funded permanent 100% position to support the Ag/NR department.

Additionally the Shone Farm administrative offices would be open M-F, 8-5 pm to assist students, staff and faculty. Unfortunately as of Spring 2013, the Shone Farm office is only staffed by a 80% Administrative Assistant.

### 1.2 Program/Unit Context and Environmental Scan

The value of agriculture-related degrees cannot be underestimated. No other industry can feed the world's population that is growing at a rate where we cannot produce enough food for the number of people. According to research (Feedstuffs, October 26, 2009) our food production must double by 2050. Currently 21 million American workers produce, process and sell the nation's food and fiber, and the average age of today's farmer is 55.3 years old. Due to imminent retirements and the difference between the current rate of global agriculture productivity and the pace required to meet future needs of our growing world population, graduates in agriculture degree programs are needed. According to the latest data from AgCareers.com, 81% of jobs in the Ag industry require education beyond high school and almost half require at least a bachelor's degree. According to the AgCareers.com/AgrowKnowledge Enrollment and Employment Outlook Report in 2008 there was a deficit of 9,317 graduates with agriculture degrees to fill open positions in the US. The USDA also estimates there are or will be 54,500 annual openings for individuals with baccalaureate or higher degrees in food, renewable energy and environmental specialties between 2010 and 2015. The USDA study projected only 53,500 qualified graduates will be available each year and stated that employers have expressed a preference for graduates from colleges of agriculture and natural resources that tend to have more relevant work experience.

Although the US unemployment rates remained high in 2012, AgCareers.com experienced a significant increase in jobs posted on their website. In 2012, AgCareers.com had almost 40,000 job openings posted in the United States (up 16% from the previous year). That is more than 3,300 agriculture-related job openings each month. Further demonstrating the need for educated agriculturalists, the November 2011 Monthly Labor Review projected particularly strong (double-digit) growth in certain agricultural careers such as agricultural inspectors, animal scientists, food scientists and technologists, natural sciences managers, pest control workers, soil and plant scientists, and veterinarians. December 2011, the Washington Post printed results of a Georgetown University study showing that recent college graduates with degrees in agriculture and natural resources were among those with the lowest unemployment rates in the nation at 7 percent, surpassed only by graduates with degrees in health (5.4 percent) and education (5.4 percent).

Agriculture positions are not only production-based, but encompass a broad range such as sales representatives, research scientists, quality assurance, marketing and engineers, just to name a few. The average starting salary for a graduate in the Ag industry is almost \$49,000 (according to the AgCareers.com/AgrowKnowledge Enrollment and Employment Outlook Report and the AgCareers.com Compensation Benchmark Review).

Agriculture is the top economic driver in California and generates over \$43 billion in revenue for the state. According to the California Department for Food and Agriculture, California agriculture is experiencing record growth and production with a 15 percent increase in the sales value of its products in 2011. The state's 81,500 farms and ranches received a record \$43.5 billion for their output last year, up from the \$38 billion reached during 2010. California remained the number one state in cash farm receipts with 11.6 percent of the US total. The state accounted for 15 percent of national receipts for crops and 7.4 percent of the US revenue for livestock and livestock products. California's agricultural abundance includes more than 400 commodities. The state produces nearly half of US-grown fruits, nuts and vegetables.

The California Community College Centers for Excellence recently completed an environmental scan of the agriculture value chain in California ([www.coeccc.net/Environmental\\_Scans/ag\\_scan\\_cv\\_11.pdf](http://www.coeccc.net/Environmental_Scans/ag_scan_cv_11.pdf)) and found that there are currently 2.5 million individuals employed in more than 800 job titles within the agriculture value chain in the state. The average annual salary for agricultural value chain workers in California is \$50,000 (California careers as a whole average \$43,000). While the number of production jobs (currently 206,303) is expected to decrease in the next five years (due to the increasing efficiencies and mechanization), a net increase of 181,000 jobs is expected throughout the entire agricultural value chain, which includes support, research, technology, production, processing/packaging, marketing, and sales and distribution.

In a recent 2011 survey by the Economic & Workforce Development Initiative through the California Community Colleges, agriculture employers were asked to describe their organizations level of interest regarding educational and training programs that could be developed by community colleges for the agriculture value

chain and workforce. The majority of responses indicated interest in on-site customized training for current employees and a certificate specific to occupations.

Following are highlights of industry trends related to the disciplines within the Ag/NR Department.

### **AGRICULTURE BUSINESS MANAGEMENT**

Agribusiness accounts for nearly one-fifth of the United States (U.S.) Gross National Product (GNP) and employs close to one-fourth of the labor force. This sector includes firms in the value chain system such processing, marketing, sales and distribution. In California, 53% of the total revenue in agriculture comes from the agribusiness industry (United States, Department of Agriculture, 2014). Agribusiness jobs account for 34 percent of the workforce in the value chain in California. Over the next five years, the Agribusiness industry is expected to grow by at least 18 percent (distribution-14% and processing-4.4%) in Sonoma County. Additionally, the average salary for Agribusiness industry employees in Sonoma County is approximately \$51,000 per annum (Chancellors Office, California Community Colleges, 2014).

Although there has significant growth in the Agriculture Business sectors, the number of community college programs that train students in this major are not keeping up with the trend. In California, there are 591 agriculture programs at California Community Colleges, of which, only 37 (6.5%) offer certificates or degrees in agriculture business. As such, there is real need to increase enrollment in Agribusiness to meet industry needs. Graduates from Agribusiness programs are usually employed as loan officers, banker, lobbyists, sales/marketing managers, farm managers, distribution managers, personnel specialists, labor contractors and public relations specialists.

Most of the students enrolled in agribusiness courses intend to transfer to one of the following institutions: California State Polytechnic University, San Luis Obispo, California State University, Fresno, California State University, Chico, California State University Stanislaus, California State University, Sonoma and University of California, Davis. There are active articulation agreements between our program and the aforementioned institutions. In developing the new Associate Degree for Transfer (AST) in agribusiness, courses were designed and sequenced to ensure that students who complete the requirements for the AST would also meet the prerequisites to transfer as juniors to California State Universities. Although a larger number of students enrolled in agribusiness transfer to four-year institutions, there is a sizeable number of students that complete our certificate or degree programs to return to the workforce. In order to meet the needs of both pathways of students (career and transfer), courses have been designed to provide a wide range of skills that are required for both industry and four-year institutions. The structure and content of agribusiness courses will be continually updated to meet both industry needs and transfer requirements for four-year institutions.

### **ANIMAL SCIENCE**

World food demand for food of animal origin will double in the next 25 years in order to feed an expected population of 9.1 billion. Trends in the animal science industry show an increase in vertical integration with a decrease in the number of producers,



but larger sized operations; increased specialization to improve efficiency; increased geographic concentration. The above needs will need to be achieved while minimizing the costs to animals, environment and humans. Current SRJC courses, certificates, and majors have been refined to meet these trends.

Employment trends show an average increase in the need of Animal Science graduates by 12.9%. Currently, 6.4% of all animal scientists have a professional degree, 23.5% have a doctoral degree, 21% have a master's degree, and 35% have a bachelor's degree. Only 5.3% have an Associate degree. Due to these demographics, the majority of SRJC's animal science offerings are geared towards the transfer student. In fall 2011, the Animal Science Coordinator, with advisory committee input, determined that based on employment options, the Animal Science certificate was no longer necessary, and subsequently approved for discontinuance.

Animal Science associates degree students served Santa Rosa Junior College are helping to produce the increased value of animal agriculture production in California; between 2000 and 2010 there was a boost of more than \$3.2 billion in total economic output from animal agriculture for the state. This growth increased household incomes by more than 17,000 jobs, according to a report funded by the United Soybean Board. At the national level, the study found that the rise in value of US animal agriculture production in the last decade resulted in more than \$22 billion in total economic output. This produced a nearly \$4 billion increase in household incomes and 128,700 jobs.

In 2010, the total economic impact of animal agriculture in California was more than \$19 billion, compared to \$289 billion nationally. The effect on household earnings was \$3.6 billion in the state and \$51 billion nationally. Animal agriculture contributed 101,178 California jobs and more than 1.8 million jobs to the US economy.

The average animal scientists has a starting salary of \$31,540. The average salary earned is \$53,230.

California community colleges that offer Animal Science programs include Modesto College, Merced College, West Hills College, College of the Sequoias, Reedley College, Shasta College, and Bakersfield College. There are no outside requirements for licensing/accrediting of Animal Science programs for SRJC or any other community college institutions. In the coming year however, due to the growing concern for animal welfare it may necessary to investigate the development of an Animal Care and Use Committee for Shone Farm.

There has been minimal change in outside funding. Partnerships have been developed with community members for leasing of breeding animals, in order to preserve the limited livestock budget.

## **ENVIRONMENTAL HORTICULTURE**

Increased interest in the quality of the environment, conservation, and restoration projects has stimulating growth in the horticulture industry over the last several years. California's environmental horticulture industry leads the nation with 21.9% of total nursery production and 8.6% of lawn and garden retail sales. California represents over a quarter of U.S. wholesale nursery production and retail sales,

creating a total of 192,065 California jobs. 74,940 jobs come from production, 76,225 jobs from lawn and garden retailing, and 40,900 result from indirect and induced effects. The total payroll exceeds \$5.58 billion, with \$2.52 billion from floral and nursery production and over \$3.05 billion from lawn and garden retailing. (Economic Impact Report, 2008-2009 next census: 2015-2016). Combined, nursery and floriculture are California's #4 agricultural commodity, producing 8.0% of the state's total agricultural output. Nursery products, flowers and foliage are produced in 55 of California's 58 counties. California leads the country in potted flowering plants, and is a dominate state in cut flower production as well as the production of bedding and garden plants. (California Agricultural Statistic Report 2013).

Nevertheless, due to the economic downturn, particularly in the construction industry, the current job market is difficult. EDD labor market information data projects a 9.6% increase in Landscaping and Groundskeeper Supervisor positions for 2008-2018 in California and a 9% increase in Sonoma County. For Landscape Groundskeepers and Workers, the projection is a 14% increase in California and a 14% increase in Sonoma County.

The employment outlook for the category of Farmworkers, Laborers, Crop and Nursery Workers in California is flat with a -.1% change. In Sonoma County, a 4.49% increase is projected. The Environmental Horticulture Advisory Committee confirmed the weakening job market in the nursery industry and the value and need for the two nursery certificates will be assessed in the coming year.

Longer term, as the economic recovery continues, the landscape field should strengthen. Private and commercial property values are enhanced by professionally designed landscapes, and the services of large and small landscape firms should return to be in high demand. In addition, a significant number of independent, entrepreneurial landscape/garden designers offer services throughout the county.

Graduates who possess landscape management skills are qualified to advance into supervisory and management positions within landscape contracting firms, design or landscape construction companies, municipal, state, county, and federal agencies, entrepreneurial landscape maintenance enterprises, and other occupations that require the application of plant knowledge, drafting/design, irrigation design, and landscape construction skills.

There are multiple areas that offer interesting employment options and starting pay to students who are prepared by SRJC's Environmental Horticulture program, including:

- Wholesale nursery propagator (\$15-40/hr.)
- Wholesale nursery grower (\$10-25/hr.)
- Field Superintendent Manager (\$30-45/hr.)
- Sales Manager (\$20-25/hr.)
- Marketing Manager (\$20-30/hr.)
- Floral Designer (\$35-50/hr.)
- Landscape Contractor (\$50-80/hr.)
- Landscape Designer (\$55-95/hr.)
- Irrigation Designer (\$75/hr.)
- Private Horticulture Consultant (\$50/hr.)
- Landscape Estimator (\$50/hr.)
- Foreperson (\$10-22/hr.)
- Crew Leader (\$10-22/hr.)
- Landscape Gardener (\$10-15/hr.)
- Salesperson (\$15-20/hr.)
- Integrated Pest Management specialist (\$50-70/hr.)
- Salesperson retail florist (\$20-35/hr.)
- Instructor (\$50-80/hr.)
- Landscape Design Assistant (\$15-23/hr.)

- Certified tree worker (\$25-40/hr.)
- Park Superintendent (\$35-50/hr.)
- Project Supervisor (\$20-30/hr.)

The variation of salaries is dependent upon the level of education, type of employment, specific job tasks and skills. Experienced workers typically earn \$10-22 /hr. Management and supervisory positions have the greatest earning at \$3,500 to \$5,500 per month. Owners/operators of many landscape maintenance businesses earn between \$4,500-8,500 per month. Many residential landscape installation contractors earn between \$150,000 -500,000 per year, gross income.

Environmental Horticulture programs can be found at the following community colleges: Cabrillo College, Foothill College, Santa Barbara City College, Reedley College, Modesto Junior College, Butte Community College, College of the Sequoias and Antelope Valley Community College.

Numerous SRJC Environmental Horticulture classes articulate with the CSU (Cal Poly and Fresno) and UC system (UC Davis).

### **EQUINE SCIENCE**

Current estimates place 6.9 million horses in the United States involving 7.1 million Americans in diverse, sophisticated and high tech positions that annually employ 1.4 million full-time employees in all regions of the country. These people serve the industry, providing over \$2.5 billion in goods and services annually. This relates to a total impact of \$112.1 billion on the US Gross domestic product. In Sonoma County, the value of agricultural production and household horse-riding activities amount to 468 million dollars, almost one quarter of the value of Sonoma County farming. Horses are Sonoma County's #2 agricultural industry. Current production and market indicators suggest that the equine science industry will continue to experience growth. Areas for growth in the industry include breeding, training, and maintaining horses, operating tracks, show and recreational facilities as well as numerous ancillary activities. These include feed, tack, equipment, and real estate sales, legal services, art, photography and literature. Students who have earned a degree at Santa Rosa Junior College with a major in Equine Science are more than qualified for a wide variety of diverse careers in the equine industry.

California community colleges that offers Equine Science courses include Modesto College, Sierra College, College of the Sequoias, and Shasta College. These institutions, however, do not offer full certificates or majors in Equine Science, like SRJC. The only other California community college which offers a full degree in equine science is Feather River College in Quincy. This program offers a markedly different program than SRJC however, as it is geared towards competitive rodeo and backcountry horsemen. SRJC's program, in contrast, is a broad technical study of all phases of equine business and management practices, coupled with general studies to produce graduates that are well rounded individuals capable of entering all phases of the equine industry. Another thing that sets SRJC's Equine Science program apart from all other colleges in the nation, is our therapeutic riding program. Recognized as one of the most progressive forms of therapy, therapeutic riding offers students with disabilities the ability to control a horse as well as one's own

body. The college offers courses for training in therapeutic riding, as well as courses for riders that work to increase balance, muscle control, strength, concentration, patience, responsibilities, and teamwork. Only one other community college in the nation has a therapeutic riding program.

With the exception of the therapeutic riding program being certified by the North American Handicapped Riding Association, there are no outside requirements for licensing/accrediting Equine Science at SRJC or these other institutions.

In 2010, CTEA funding was used to acquire a hotwalker, with installation by Shone Farm. Additionally in 2011, the Equine Science program obtained \$21,000 in funding from the CalRecycle Tire Derived products program for shredded rubber and stall mats for use in the equine unit and beef unit.

## **NATURAL RESOURCE MANAGEMENT**

Natural Resource Management is a rapidly growing field, particularly in light of challenges to our environment like global warming, exponential population growth and potentially dangerous carbon emissions.

Environmental scientists work to find ways to meet and overcome those challenges, in order to maintain a livable environment for generations to come.

The jobs available to natural resource management graduates is diverse and in a wide range of settings. The U.S. Bureau of Labor Statistics lists some of the tasks handled by these professionals as: Monitoring watershed, finding ways to preserve water supplies, writing policies to preserve natural resources, consulting with companies to help them become more environmentally responsible, working with government entities to develop regulations and ensure they are followed. Scientists in this field often have backgrounds similar to those that work in physical or life science, but their focus is on environmental issues. Most that come into this field have a strong math and science background, and a minimum of a two-year degree in natural resource management to get into an entry level position. The U.S. Bureau of Labor Statistics predicts the field of natural resource management to grow at a much faster than average pace over the next few years.

Example of anticipated career changes for natural resource management include: Forestry Technicians: Expected growth of 9% over 2008-18 as more land is set aside to protect natural resources or wildlife habitats. Also, more jobs may be created by recent Federal legislation designed to prevent destructive wildfires by thinning the forests and by setting controlled burns in dry regions susceptible to forest fires.

Parks and Recreation: Employment of recreation workers is projected to increase by 15 percent between 2008 and 2018. This growth is being driven by an increased interest in the "No Child Left Inside" program, which is fueling civic and social organizations and fitness and sports centers to increase their outdoor recreation activities.

Other Community Colleges offering Natural Resource Management programs in California include Truckee Meadows Community College, Reedley Community

College, Shasta College, De Anza College, American River Community College, Butte Community College and Feather River Community College. Four year institutions in California that SRJC graduates transfer to in Natural Resource Management include UC Davis and Santa Cruz, and CSU Chico, Humboldt, Bakersfield, and Channel Islands. Numerous SRJC courses articulate with these four year institutions.

Licensing/accrediting agencies related to SRJC's Natural Resource Management program include the Seasonal Law Enforcement Park Ranger Academy – Windsor Training Center (recommended).

Partnerships or cooperative ventures existing with local employers include: Sonoma County Agricultural and Open Space District, Sonoma County Regional Parks, U.S. Army Corps of Engineers, North Bay Conservation Corps, National Park Service and Forests Unlimited.

### **SUSTAINABLE AGRICULTURE**

Now that organic food has a nationally recognized production standard and is overseen by the United States Department of Agriculture, organic food has become legitimized in America as sales steadily climb. The number of certified organic farms and processing facilities in the United States increased nearly 3 percent from the end of 2010 to the end of 2011, with California still leading the nation with the most organic operations, according to the U.S. Department of Agriculture. USDA database shows a total of 17,673 U.S. farms and processing facilities were certified to the standards of the National Organic Program as of the end of 2011. That's 478 more operators than the end of 2010. The current total is also a 240 percent increase since the program started tracking that information in 2002. The database shows California has 3,853 certified organic operations. That's compared to 2,714 organic farms in 2008, although that number comes from the USDA Census of Agriculture and includes farms that are certified and exempt. U.S. Deputy Secretary of Agriculture Kathleen Merrigan said USDA has been working to increase the number of certified organic operations in the nation by 20 percent by 2015. Starting from the 2009 baseline of 16,564 operations, she said the goal is to hit a total of 20,655 certified operations in another three years.

With such a rapidly growing market in Sustainable Agriculture, there are multiple areas that offer interesting employment options to students who are prepared in SRJC's Sustainable Agriculture program. Employment opportunities upon completion of the SRJC Sustainable Agriculture program may include:

- Farm owner
- Niche grower of specialty produce, flowers, herbs, fruits and nuts
- Farm or garden manager - field or office
- Farming / Gardening consultant - private or company employee
- Seasonal Farm intern / apprentice (plant, irrigate, weed, harvest)
- Farmer's Market manager / assistant and/or vendor
- Retail/Wholesale nursery production (greenhouse/sales)
- Farm Advisor and/or research assistant with County Ag Commissioner, Cooperative Extension or United States Department of Agriculture
- School Garden coordinator
- Compost production and sales
- Organic support/sales and services (fertilizers, seed, equipment, etc...)

- Sustainable livestock production / Range or ranch manager
- Chef/ restaurateur
- Pest control advisor
- Public garden / botanical garden employee
- Farm/Garden estate caretaker
- Agriculture teacher / public speaker/ company representative
- Value-added product creator (i.e. wreaths, jams, brewer, tincture, oils, etc...)
- Nursery grower/worker for container vegetables, herbs, bare-root fruit trees

Santa Rosa Junior College is the only community college in California that offers an A.S. degree and two certificates in Sustainable Agriculture. Some of the curriculum is aligned with lower division Sustainable Agriculture major preparation at UC Davis, UC Santa Cruz, Cal Poly, and other universities.

Licensing/accrediting agencies related to Sustainable Agriculture programs are optional. Certifications can be obtained if desired in CCOF, Sustainably Farmed, Humane Farmed, Biodynamically Farmed, etc...

There has been a substantial increase in grant funding. One grant acquired by the Sustainable Agriculture program for 2010-2011 was a Felton Foundation Grant for \$25,000. Additionally, a USDA Farmers Market Promotion Program grant was awarded in 2011 in the amount of \$67,719 over 2 years, aimed at promoting Shone Farm products. Additionally, the Ag Department, the SRJC Small Business Development Center and the Latino Service Providers collaborated with the University of California Cooperative Extension (the lead agency) on a \$750,000 grant aimed at training beginning future ranchers and farmers. The USDA Beginning Farmers and Ranchers grant will run for 9 months starting March 2012. The final grant awarded in the Sustainable Agriculture program came from the CCC Chancellor's Office. This \$47,000 Collaborative Sustainable Agriculture Grant is aimed at providing elementary school children exposure to sustainable agriculture. Funding will be used to provide visits to Shone Farm and a 2 week long intensive summer academy.

### **VETERINARY TECHNICIAN**

The demand for Registered Veterinary Technicians is nothing short of extreme. There are far fewer RVTs in Sonoma County than are required by the labor market. The California 2010 EDD data shows an acceleration of need for RVTs. In 2010 there were 120 RVTs and an anticipated need of 200 by 2020. This 66.7% growth is once again the strongest for any county in California. In addition there are the estimated 250 Veterinary Assistant positions in our county. State estimates for the 2010-2020 time frame include an anticipated 31% growth in technician positions (2,600 new jobs). According to the California Veterinary Medical Board there are 138 Registered Veterinary Technicians residing in the Sonoma County as of January 2012 to fill an estimated 240 positions. EDD labor market data are consistent with the number of workplace facilities (94 current premise permits) and veterinarians (231 valid licenses) in Sonoma County. According to the US Bureau of Labor Statistics the job prospects for Veterinary Technicians is "excellent". The 2010 data update has an increased anticipated growth of 52% or over 40,000 new jobs and 50,000 openings over the next 10 years... As of 2010 Veterinary Technicians are

now listed under “Healthcare Professions” by BLS rather than Professional, Scientific, and Technical Services. The job prospects are still excellent, but the category change means they are no longer at the top of their list.

Santa Rosa Junior College is the predominant source for RVTs. Over the last three years 84% (26/31) of new RVT licenses in Sonoma County were earned by SRJC students.

Over the last few years Dr. Famini has developed a google group for employment and other announcements. Over 300 current and former SRJC students are members and hospitals now routinely email job announcements to Dr. Famini in preference to Craigslist or other sources. Taking into account the usual sources (craigslist, etc.) and the google group listings there are over 300 jobs/year for veterinary support staff in the Sonoma/Marin county area.

The closest community colleges that offer a Veterinary Technician program are Consumnes River College in Sacramento (~2 hour drive) and Foothill College in Los Altos Hills (1hr 45 minute drive). There are also branches of the private school Western Career College in Pleasant Hill and San Leandro (about 1hr 15 minute drive). However, current Western Career College tuition is about \$35,000 for the two-year program. All of the above programs are distinct from SRJC in that they are AVMA approved full time programs that include far more extensive hands-on component, maintain colonies of canine and feline patients, etc.

Recent articles mentioning the strong job market for Registered Veterinary Technicians include:

“Eight secure jobs worth landing this spring and beyond” on Fox Business News posted 3/27/2013.

“Animals Need Health Care Too” in Community College Week from 2/22/2010.

“Vet Techs in Demand” in the Press Democrat on 8/23/2009. This was a reprint of a New York Times Article.

Veterinary Technicians were listed as Number 2 in “150 Best Recession-Proof Jobs” by Laurence Shatkin, Jist Publishing, November 2008.

The critical demand for Registered Veterinary Technicians locally, statewide, and nationally continues to fuel strong student enrollment in courses. Additionally, there is an overall trend towards larger specialty hospitals and corporate ownership of hospitals (Veterinary Centers of America and Banfield). The larger and corporate hospitals tend to better utilize Registered Veterinary Technicians. This is due to both to a need for more technically advanced veterinary assistants as well as the fact that RVTs are a cheaper alternative to perform many of the tasks reserved for veterinarians in smaller hospitals. This includes a greater role in client communication, veterinary dentistry, vaccine appointments, etc. Larger and

corporate practices are also less likely to allow unregistered assistants to perform tasks legally reserved for RVTs such as inducing anesthesia and placing splints.

The SRJC Veterinary Technician Program fulfills the state Veterinary Medical Board requirements for students to sit for the state Registered Veterinary Technician board exam through the alternate route. There are three routes to be eligible to sit for licensure. 1) Attend a full time American Veterinary Medical Association 2-year program (the closest program is ~100 miles from Santa Rosa) 2) Already have an equivalent license from another state and have a minimum number of clinical experience or 3) the Alternative Route. The alternative route consists of two basic requirements: Academic requirements and Clinical experience requirements. The Academic requirements consist of many specific areas of instruction within 20 semester units. The SRJC fulfills this requirement. The Clinical experience required is 4416 hours under the supervision of a veterinarian and includes a list of specific job tasks that must be completed. The SRJC program includes the Academic component only and it is up to the student to meet the clinical requirement.

The Veterinary Technician Program offers an annual seminar on the admissions requirements and pathways to Veterinary School. This is followed by a unique tour of the UC Davis School of Veterinary Medicine which includes touring the Anatomy Lab, Surgery Lab, the teaching Hospital, meeting the admissions staff and sitting in on a few veterinary school lectures. We are the only community college in the state offering this opportunity.

Several partnerships have been developed over the last few years.

- The Small Animal Emergency Medicine class is now offered every odd Spring Semester. This class is held at Animal Care Center, the largest veterinary emergency center in the county. This class included over a dozen guest speakers from both Animal Care Center and PetCare emergency veterinary hospitals. It has become the most popular elective in the program.
- In order to provide hands-on class activities with live animals the program now partners with several local rescue groups: Bergin University for Canine Studies (formerly Assistance Dog Institute), Pets As Loving Support therapy dogs, cats from two local non-profit rescue groups, and Reading Therapy Dogs from another group. Animals from Sonoma County Reptile Rescue are also used in a single class per semester.
- Through cooperation with Paws Are Loving Support and the Humane Society of Sonoma County we have put on a free vaccine clinic for the pets of AIDS patients. This is the capstone experience of the Small Animal Nursing (AnHlt120) course. This is a win/win/win situation where the SRJC students gain valuable experience, PALS and their pets get preventative medical care, and the Humane Society is provided with a labor force to make this event possible.
- Cooperation with the shelters in the county continues with students volunteering or working in 5 different animal shelters including the continued intern program at Sonoma County Animal Care and Control helping this municipal shelter and giving students hands on experience in a variety of capacities including animal intake, spay/neuter clinic support, etc.



- Since fall 2010, the SRJC program offers a job shadowing rotation where students are invited to observe and participate in a variety of different veterinary clinical settings. This semester long weekly rotation has exposed 12 to 15 students per semester to hospitals including: Eye Care Center for Animals, Humane Society of Sonoma County, Large Animal Hospital of Cotati, Memorial Beach Animal Hospital, Montecito Animal Hospital, PetCare, VCA Animal Care Center, VCA Forestville, and Bradner Veterinary Hospital among others.

There has been minimal change in outside funding. The Redwood Empire Veterinary Medical Association has pledged to contribute \$500 year to fund an annual scholarship that would allow a Veterinary Technician student to sit for their Board Exams. Additionally, the Association now holds their annual Continuing Education event for veterinarians at the SRJC Shone Farm. For the 2010-2011 year, Dr. Famini received \$21,410 in CTEA funding and \$7,000 in 2012-13 for Vet Tech instructional equipment.

Historically no local venue existed for working RVTs to communicate or gain a perspective of their profession outside the walls of their own clinic. Additionally, as of July 2011 there is mandatory CE requirement for RVTs. To remedy these two problems Dr. Dan Famini founded the Redwood Empire Veterinary Technician Association. Since July 2011 this organization has held monthly CE and networking meetings with 50-80 attending RVTs and veterinary support staff. Now there are 11 person Executive Board consisting of 10 RVTs and Dr. Famini, with an all RVT officer team taking this project forward.

## **VITICULTURE**

Winegrape production in Sonoma County totals over four hundred million dollars annually and accounts for the greatest revenue of all agricultural crops in the county (Figures from Sonoma County Ag Comm Office 2010 Crop Report can be found at [http://www.sonoma-county.org/agcomm/crop\\_report.htm](http://www.sonoma-county.org/agcomm/crop_report.htm)). About 73% of Sonoma County's agricultural production is growing wine grapes—60,302 acres of vineyards, with over 1100 growers.

The long-term outlook for the wine industry is positive as demographic trends suggest the consumer market will remain strong. In 2012, the Wine Institute reported a record 5.6 percent increase in cases of California wine sold in the U.S., compared to the previous year. The estimated retail value of the shipments totaled nearly \$20 billion, according to figures that institute released. During the same period, U.S. wine exports – 90 percent of which came from California – reached a new record of \$1.39 billion in winery revenues in 2011, an increase of 21.7 percent compared to 2010. 120,000 new wine labels were approved last year by the U.S. Tax and Trade Bureau.

Total wine sales in the U.S. from all production sources – California, other U.S. states and foreign countries – climbed to a new record of 347 million cases, a 5.3 percent jump from 2010, with an estimated retail value of \$32.5 billion, John Fredrickson of Gomberg Fredrickson & Associates reported, marking the 18th

consecutive year of volume growth in the U.S. California's nearly 212 million cases held a 61 percent share of the U.S. market.

Additionally it should be noted that Sonoma County's reputation as a major wine producing area will grow over the next several years as a result of recent legislation and marketing efforts. A state requirement that wines produced in the county include the phrase "Sonoma County" along with its American Viticulture Area was signed into law in fall 2011 and will go into effect in 2014. Similar laws are credited with increasing the profile of other California wine growing areas (including neighboring Napa County) resulting in an increase in viticulture productions.

Partnerships: Partnerships exist between the SRJC Viticulture program and local wineries purchasing fruit from Shone Farm Vineyard. Dependent upon contract negotiations, these wineries include Benzinger, Rodney Strong, Merry Edwards, La Crema, Arrowwood, Korbel, Clos Du Bois, and Sonoma Cutrer. Also the Sonoma County Winegrape Commission has been conducting workshops and trainings at the Shone Farm and SRJC viticulture students have been invited to participate at no charge.

Increase of funding from Sonoma County Vineyard Technical Group for some specialized pieces of equipment for Viticulture classes has been provided. Additionally the Sonoma County Winegrape Commission has provided a weather station for Shone Farm, which serves as a resource for all of Sonoma County as well as an educational tool for students.

Napa Valley College and Allan Hancock College provides a community college certificate or major in viticulture.

## **WINE STUDIES**

The Wine Studies program has four emphases: Wine Evaluation & Service, Wine Business & Marketing, Enology, and Wines & Vines. The program prepares students for a variety of positions in the wine industry, such as: grower relations manager, viticulture wine quality specialist, winery laboratory assistants, cellar masters, assistant winemakers, winery education directors, wine quality control specialists, sensory evaluation personnel, wine sales specialist, wine club administrator, sales manager, public relations and marketing coordinator, and wine merchandiser.

In 2012, the Wine Institute reported a record 5.6 percent increase in cases of California wine sold in the U.S., compared to the previous year. The estimated retail value of the shipments totaled nearly \$20 billion, according to figures that institute released. During the same period, U.S. wine exports – 90 percent of which came from California – reached a new record of \$1.39 billion in winery revenues in 2011, an increase of 21.7 percent compared to 2010. 120,000 new wine labels were approved last year by the U.S. Tax and Trade Bureau.

Total wine sales in the U.S. from all production sources – California, other U.S. states and foreign countries – climbed to a new record of 347 million cases, a 5.3

percent jump from 2010, with an estimated retail value of \$32.5 billion, John Fredrickson of Gomberg Fredrickson & Associates reported, marking the 18th consecutive year of volume growth in the U.S. California's nearly 212 million cases held a 61 percent share of the U.S. market.

Numerous SRJC Wine Studies courses are articulate with UC/CSU viticulture and enology programs.

Napa Valley College, Allan Hancock College, and Las Positas provide degrees, or certificates in the same discipline. Additionally it should be noted that there are a number of private Wine Studies programs.

There are no requirements of licensing/accrediting agencies related to wine studies. There are future plans to create some wine sommelier accredited licensing certificates.

Efforts are underway to expand opportunities for students to become involved in the Shone Farm Winery, assisting the winemaker with all aspects of the operation, from production to marketing and distribution.

### **In Summary**

In light of all these positive employment trends student enrollment in the Ag/NR Department continues to be high. The department anticipates this trend to continue and will need to work closely with the administration to avoid too drastic of a schedule reduction. Many Ag/NR classes are already over-enrolled and given the size of classrooms, laboratory requirement of most Ag/NR classes, lack of full time laboratory support staff, it is not possible to increase these any further. Much of what the department would like to do in terms of expansion and interdepartmental collaboration will only be possible with permanent staffing support.

## **2.1a Budget Needs**

Over the last 10 years the Ag/NR budget has been cut by 25% in spite of having an increase in diversity and number of offerings. This budget is used for the basic instructional supplies that are used in the act of teaching. Examples include: syringes and fluids used to teach medication administration in AnHlt120 Small Animal Nursing, disinfection supplies used for appropriate cleaning between a veterinary and wine class, etc. As a result the instructional practices are

restricted to inherently less successful choices such as talking about how do perform a task instead of actually having a student learn by doing.

The primary purpose and motivation for CTE programs is the direct work place relevance. The best way to illustrate concepts is to see them functioning in the real world and discussing them with working professionals. This requires traveling to various work sites (farms, nurseries, veterinary hospitals, parks, etc.). While the entrance fees to tasting rooms, parks, etc. is passed on to students in the form of student fees, the costs of travelling to sites prohibits many opportunities to learn in the field. In a subset of possible instances students are directed to drive themselves to destinations, but this misses the valuable opportunity to build a more open and functional classroom culture that comes from the joint travel. Allocation of funds to provide for field trips would greatly enhance the learning experience of classes in all 9 of the Ag/NR programs.

## 2.1b Budget Requests

Rank	Location	SP	M	Amount	Brief Rationale
0001	Santa Rosa	02	01	\$5,000.00	Increase student worker money to help growing needs in the department and various programs.
0002	Santa Rosa	02	01	\$25,000.00	Increase in instructional supply budget to reflect increase in enrollment that occurred during the last decade, especially in the last couple of years
0003	Santa Rosa	02	01	\$5,000.00	Funding augmentation is needed for student field trips. Due to lack of availability of college vans, the Department has had to rent Enterprise vans at a considerable cost.
0004	Santa Rosa	02	01	\$1,000.00	Increase in instructional supply budget to reflect increase in lab costs for wine lab classes..
0005	Santa Rosa	02	01	\$1,000.00	Increase in instructional supply budget to reflect increase in lab costs for soils and plant labs.
0006	Santa Rosa	02	01	\$1,000.00	Increase in field trip budget due to increased number of classes and field trips. Costs of renting vans cannot come out of student fee money.
0007	Santa Rosa	02	01	\$1,000.00	Increase in instructional supply budget to reflect increase in plant costs for Horticulture.

## 2.2a Current Classified Positions

Position	Hr/Wk	Mo/Yr	Job Duties
Administrative Assistant II	32.00	11.00	Admin duties for Lark Service Center and AG/NR Dept.
Coordinator, Science Labs	20.00	11.00	Coordinates labs for Wine Studies, Environmental Horticulture, Natural Resources, Animal Science, Veterinary Technician, General Agriculture, and Sustainable Agriculture.
Administrative Assistant III	40.00	12.00	Admin duties for Dean of Agriculture, Natural Resources, and Culinary Arts.

## 2.2b Current Management/Confidential Positions

Position	Hr/Wk	Mo/Yr	Job Duties
Department Chair (80% release)	32.00	10.00	Chair AG/NR Department duties: scheduling, budget, coordination of faculty, staff, outreach, & administration. Based upon the Department Chair release formula, this position receives 78% release time. Each semester the chair farms out 5% of department chair load to each of the 6 program coordinators in the department. Thus the chair retains only 48% of the load.
Dean, Agriculture/Natural Resources	40.00	12.00	Supervising administrator for the Ag/Natural Resources Department, including Shone Farm. Fall of 2012 this position was filled by Ganesan Srinivasan. In Spring 2013, Dr. Ganesan was also

			given the responsibility of the Culinary Department to complete the Farm to Fork Concept.
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## 2.2c Current STNC/Student Worker Positions

Position	Hr/Wk	Mo/Yr	Job Duties
Student Greenhouse Technicians (3)	6.00	12.00	Care for plants in greenhouse for Horticulture program; manage monthly plant sale.
STNC Greenhouse Manager	20.00	12.00	Supervision of student employees (4 days/wk). Coordination and implementation of program plant sales - bookstore and department. Propagation and production of crops for sales and early fall class instruction

## 2.2d Adequacy and Effectiveness of Staffing

The Ag/NR department and Shone Farm does not have adequate classified, STNC staff, or student workers to support its needs. There is a critical need for more permanent classified staffing, particular laboratory assistance and staff to support Shone Farm operations and instruction. A unique aspect of the Agriculture/Natural Resources Department is the need to continually care for the living animals and plants that are part of student learning labs. This is very labor intensive. Trying to fill these positions with STNC employees would be extremely inefficient, short-sighted, and wasteful.

### **Staffing Requests**

A note of context for requests 1, 2, and 4:

The loss of full time faculty for 6 of our 9 programs within the last 2-3 years has left over half of our courses being instructed by new faculty over half of whom are new to their specific courses or teaching at all. The neophyte instructors who are unfamiliar with basic JC practices and the act of teaching place a much greater burden on all support staff.

#### **1. Coordinator, Science Lab (Current: 50%; Request: 100% 10 month) (Instructional program-Santa Rosa)**

The current Coordinator, Science Lab has been staffed at 50% for the last several years. Over that time period there has been the addition of entire additional programs (Veterinary Technician and the current format of Wine Studies) a significant increase in total student enrollment, total courses, diversity of course offerings. Additionally the department has been expanding to offer more classes on the Petaluma Campus. The lab needs for these classes are being met by having this same part time person preparing materials for the instructor to take with them. This arrangement provides access to our courses to a new student population, but requires greater/less time efficient prep on the part of our Lab Coordinator. Furthermore there is an inherent lack of efficiency with a part time program requiring support at specific, rigid timing dictated by the class schedule. There is a critical need to increase this position to 100%.

#### **2. Lark Hall Administrative Assistant (Current: 80% 11 month; Request: 100% 12 month)**

Starting February 2011, the administrative assistant hours for the Ag/NR Department were permanently reduced to 32 hours/week (80% time). Departmentally in an effort to have permanent coverage and administrative pressure the department's AAIII position

was proposed for reduction to an AAll position. This leaves an entire day per week in which our faculty and students have no basic support. Additionally, the loss of full time faculty for 6 of our 9 programs within the last 3 years has left over half of our courses being instructed by adjuncts or new full-time faculty. The neophyte instructors who are unfamiliar with basic JC practices place a much greater burden on all support staff.

### 3. Hort Tech/Greenhouse Faculty Technician (Current: no position; Request: 100%) (Environmental Hort program-Santa Rosa)

For the college to maintain the standards and reputation of the Environmental Horticulture program, a 100% District funded Hort Tech/Greenhouse Facility Technician is needed. Currently, these tasks are performed by part-time student workers and an occasional student volunteer. Plants are sold in the SRJC bookstore as well as at the monthly plant sales (see recent plant sale survey). The current Horticulture instructor's time is being taxed with supervision of these part-time temporary employees (and volunteers). Responsibilities of this position would include: maintaining the growing areas, greenhouse, and nursery; assisting students and faculty with class projects; equipment maintenance, coordination and implementation of monthly plant sales (10 mos/year), Bookstore sales, Petaluma campus sales, school tours, coordination of facility maintenance and record keeping.

### 4. Forestry Tech (Current: no position; Request: SNTC 50 %)

The Natural Resources program needs a staff person to maintain the Shone Farm forest, i.e. brush removal, trail building, planting seedlings, removing dead limbs and trees and other fire suppression measures, as Shone Farm employees are already overcommitted with other farm obligations. Currently much of the Shone Farm forest responsibilities are falling to interns, community clean up days and special studies students. Grant work is underway to try and acquire funding for this position via a community forest program.

### 5. Wine Studies Tech (Current: no position; Request: STNC 100%)

As the largest discipline in the department, the Wine Studies program needs a staff person to assist in classroom and lab set up for enology and sensory evaluation classes.

Data Element	Value	Change from 2011-12	District Total	% of District Total
FTE-S : FTE-F	21.9906	8.15%	28.3270	77.63%
FTE-AF : FTE-CF	1.2842	-19.75%	1.3077	98.20%
FTE-F : FTE-SS	3.1737	0.88%	1.0235	310.07%
FTE-F : FTE-M	8.8829	9.81%	5.4039	164.38%
FTE-SS : FTE-M	2.7989	8.85%	5.2796	53.01%
FTE-ST : FTE-C	0.2505	-11.69%	0.1268	197.55%
Average Faculty Salary per FTE-F	\$46,147.17	7.58%	\$58,570.50	78.79%
Average Classified Salary per FTE-C	\$24,364.50	-40.93%	\$44,716.87	54.49%
Average Management Salary per FTE-M	\$70,950.44	26.43%	\$75,957.24	93.41%
Salary/Benefit costs as a % of total budget	93.37%	0.04%	75.90%	123.03%

Non-Personnel \$ as a % of total budget	6.63%	-0.52%	12.71%	52.14%
Restricted Funds as a % of total budget	2.63%	-24.12%	11.39%	23.12%
Total Unit Cost per FTE-F	\$81,300.35	7.03%	\$170,777.67	47.61%
Total Unit Cost per FTE-C	\$519,968.94	-28.54%	\$273,966.16	189.79%
Total Unit Cost per FTE-M	\$722,179.09	17.54%	\$922,860.52	78.25%
Total Unit Cost per FTE-S	\$3,697.05	-1.03%	\$6,028.78	61.32%
Total Unit Cost per student served/enrolled	\$331.02	-12.77%	\$3,658.53	9.05%

## 2.2e Classified, STNC, Management Staffing Requests

Rank	Location	SP	M	Current Title	Proposed Title	Type
0001	ALL	02	01	Coordinator, Science Lab (50%)	Coordinator, Science Lab (100%)	Classified
0002	Santa Rosa	02	01	Administrative Assistant II (80%) - 11 Months	Administrative Assistant II (100%)	Classified
0003	Santa Rosa	02	01		Science Lab Instructional Asst (100%)	Classified
0005	ALL	02	01		Hort Technician	Classified
0005	ALL	02	01		Forestry Tech (50%)	Classified
0005	ALL	02	01		Livestock Technician (50%)	Classified

## 2.3a Current Contract Faculty Positions

Position	Description
Viticulture Instructor/Program Coord.(Dept Chair)	The full-time instructor has program coordination duties with disciplinary expertise in Viticulture. Coordinates closely with advisory committees and industry associations. Involved with program and outreach responsibilities. Supervises adjunct instructors and coordinates faculty and equipment needs for the Viticulture programs. Additionally, works with Shone Farm vineyard management personnel to coordinate the farming and development of a 70 acre (and growing) vineyard.
Agribusiness Instructor/Program Coordinator	New hire fall 2013, thus probationary tenure track faculty. The full-time instructor has program coordination duties with disciplinary expertise in agribusiness. Involved with program and outreach responsibilities. Supervises adjunct instructors and coordinates faculty and equipment needs for the agribusiness program. Additionally has a computer lab to coordinate in order to effectively serve student needs.
Natural Resources Instructor/Program Coordinator	The full-time instructor has program coordination duties with disciplinary expertise in Natural Resources Management. Coordinates closely with Advisory Committee and industry associations. Involved with program and outreach responsibilities. Supervises adjunct instructors and coordinate faculty and equipment needs for the natural resource programs. Additionally works with the Shone Farm Manager to oversee 120 acres of forest, an outdoor student lab.
Veterinary Tech Instructor/Program Coordinator	The full-time instructor has program coordination duties with disciplinary expertise in Animal Health. Coordinates closely with Advisory Committees and industry associations. Maintains currency with state regulatory agencies. Involved with program and outreach responsibilities. Supervises adjunct instructors and coordinates faculty and equipment needs for the animal health programs. Working to acquire equipment and facilities to more effectively serve their student needs.
Wine Studies Instructor/Program Coordinator	The full-time instructor has program coordination duties with disciplinary expertise in Wine Studies. Coordinates closely with Advisory Committees and industry associations. Maintains currency with state regulatory agencies. Involved with program and outreach responsibilities. Supervises adjunct instructors and coordinates faculty and equipment needs for the Wine Studies programs. Working to acquire equipment and facilities to more effectively serve their student needs.
Gen. Ag./ Sustainable Ag./ Program Coordinator	New hire fall 2015, thus probationary tenure track faculty. The full-time instructor has program coordination duties with disciplinary expertise in Agriculture/Sustainable Agriculture. Coordinates closely with Advisory Committees and industry associations. Maintains currency with state regulatory agencies. Involved with program and outreach responsibilities. Supervises adjunct instructors and coordinates faculty and equipment needs for the Agriculture/Sustainable Agriculture programs. Additionally works with the Shone Farm Manager to oversee an outdoor student lab.

## 2.3b Full-Time and Part-Time Ratios

Discipline	FTEF Reg	% Reg Load	FTEF Adj	% Adj Load	Description
Agribusiness PC	0.2000	100.0000	0.0000	0.0000	
Agriculture Business SR	0.6000	100.0000	0.0000	0.0000	The calculations are based off Fall 2014.
Agriculture Mechanics SR	0.0000	0.0000	0.4200	100.0000	Ag/NR only teaches one AGMEC course (AGMEC 60). The majority of AGMEC instructional activities are in the Industrial Trade Tech department.
Agriculture PC	0.0000	0.0000	0.2700	100.0000	
Agriculture SR	0.7300	57.0000	0.5300	42.0000	The calculations are based off Fall 2014.
Animal Health PC	0.4000	49.3000	0.4100	50.6000	
Animal Health SR	0.8700	39.1000	1.3500	60.8000	There are five adjuncts in ANHLT. The calculations are based off Fall 2014.
Animal Science SR	0.0000	0.0000	0.6500	100.0000	Without full time program coordinators to coordinate facilities, supplies, equipment, adjuncts, and marketing of programs, growth of these programs is challenging. This discipline does not have any current faculty. There are four adjuncts in ANSCI. The calculations are based off Fall 2014.
Environmental Horticulture SR	0.7600	48.4000	0.8100	51.5000	There are five adjuncts in HORT program. The calculations are based off Fall 2014.
Equine Science SR	0.0000	0.0000	1.1200	100.0000	Without full time program coordinators to coordinate facilities, supplies, equipment, adjuncts, and marketing of programs, growth of these programs is challenging. No full time faculty. There are six adjunct faculty. The calculations are based off Fall 2014.
Natural Resources PC	0.2000	100.0000	0.0000	0.0000	
Natural Resources SR	0.4600	33.0000	0.9300	66.9000	The calculations are based off Fall 2014.
Sustainable Agriculture SR	0.2000	32.2000	0.4200	67.7000	The calculations are based off Fall 2014
Viticulture SR	0.8700	81.3000	0.2000	18.6000	There are two adjunct faculty in VIT program. The calculations are based off Fall 2014.
Wine Studies PC	0.1000	100.0000	0.0000	0.0000	
Wine Studies SR	0.8700	51.4000	0.8200	48.5000	New full time instructor hired for 14/15 academic year. There are ten adjunct in the WINE program. The calculations are based off Fall 2014.



## 2.3c Faculty Within Retirement Range

There are three faculty members under age 50 and three faculty members 55 years or older. Anticipated retirements of two faculty members within the next 2 years will dramatically impact the Ag/NR Department if these specialty expertise positions are not replaced.

## 2.3d Analysis of Faculty Staffing Needs and Rationale to Support Requests

### **Faculty Recruitment:**

The Ag/NR department has many programs; some are extremely difficult to recruit for due to the speciality expertise required. Prior to the district wide course reductions, the department interviewed individuals for the adjunct pool on a yearly basis and more often if needed. Those disciplines, which require extensive specialty expertise, may only draw a handful of applicants to the pool. The Ag/NR department interviewed 6 out of 9 disciplines for the adjunct pool.

### **Full Time Equivalent Faculty**

For the complexity of the programs offered in the Ag/NR Department, the department is understaffed. As of spring 2016, the department is operating with only six full time instructors out of the nine programs. Each instructor is a program coordinator and most instructors are on overload. Prior to the budget reduction, the number of course offerings, adjuncts, programs, etc. grew considerably. The extremely unfavorable ratio of full time to adjunct faculty impacts our department on a daily basis. Although the Ag/NR Department is not as large as some departments at SRJC, we are an exceptionally diverse and complex department made up of many areas of specialty expertise at many sites. The full time faculty serve as program coordinators and manage all of the department's activities detailed earlier. The obvious conclusion is that we desperately need additional full-time faculty to help with this load of work. We have many wonderful and dedicated adjunct faculty, but the reality is that they are paid only to teach their classes and hold student consultation hours. Accordingly, the department workload/program coordination falls to the full-time faculty. It should be noted that it is not only hard for faculty to undertake these responsibilities with excellence and vision, but a huge amount of effort is also necessary to coordinate the large number of adjunct faculty and carry out any effective policy changes. Being understaffed impacts us negatively, not only in how we perform our current tasks, but also in our ability to be progressive in serving the district. In the past six years, five faculty positions have been vacated. In the past six years, four faculty positions have been filled.

### **Adjunct Faculty**

The Ag/NR department has 61 adjunct faculty. The majority of Ag/NR classes are extremely specialized resulting in only one or two adjuncts who are able to teach the course.

## **Faculty Staffing Priorities**

### **Wine Business**

The wine industry contributes \$13 billion annually to the economy of Sonoma County. At SRJC, the wine studies program has increased enrollment in the last two years. In addition, the Wine Studies Advisory Board recommends increased emphasis in the program on wine sales, marketing, hospitality, and on training students to work in functions such as accounting, compliance, and introductory business management. Because of the importance of the industry to the county, and due to the growth of the program and the increased emphasis on business courses, a full-time, tenure-track wine business professor is needed.

### **Veterinary Technician Faculty:**

The Veterinary Technician Program is a credit certificate program in alignment with California Veterinary Medical Board to allow students to achieve Registered Veterinary Technician licensure. Current offerings for the successful Veterinary Technician Program are over 2.0FTEF with further growth anticipated in both employment for graduates and student demand. This program is offered on both the Santa Rosa campus and we are the only community college in a 5 county area with this program. It is anticipated this hire (and current single faculty member) will be split between the two campuses. It has been exceptionally difficult to find adjunct faculty with active recruitment by current single faculty required every year. Hiring a second Vet Tech faculty is a strategic step towards becoming an American Veterinary Medical Association accredited institution which requires two FT faculty.

### **Forestry/Hydrologist**

The anticipated faculty staffing needs for NRM for a Forestry/Hydrologist supports the revitalized NRM program goals established during 2016 Program Review. Student interest and transfer program articulation indicate a growing demand for discipline expertise in these fields.

## 2.3e Faculty Staffing Requests

Rank	Location	SP	M	Discipline	SLO Assessment Rationale
0001	ALL	02	01	Forestry/Hydrologist	The anticipated faculty staffing needs for NRM for a Forestry/Hydrologist supports the revitalized NRM program goals established during 2016 Program Review. Student interest and transfer program articulation indicate a growing demand for discipline expertise in these fields.
0002	ALL	02	01	Veterinary Technician Faculty:	
0003	ALL	02	01	Wine Business	The wine industry contributes \$13 billion annually to the economy of Sonoma County. At SRJC, the wine studies program has increased enrollment in the last two years. In addition, the Wine Studies Advisory Board recommends increased emphasis in the program on wine sales, marketing, hospitality, and on training students to work in functions such as accounting, compliance, and introductory business management. Because of the importance of the industry to the county, and due to the growth of the program and the increased emphasis on business courses, a full-time, tenure-track wine business professor is needed.

## 2.4b Rationale for Instructional and Non-Instructional Equipment, Technology, and Software

There are 9 different programs offering 30 certificates and 15 associate degrees in the Ag/NR Department. All the instructional programs in the Ag/Natural Resources Department are heavily dependant upon equipment and farm machinery which tend to be very costly. The equipment needs are diverse, ranging from wine lab equipment used in the Wine Studies program to machinery needed for large crop production by students in the Sustainable Agriculture program. Students must learn using state-of-the art tools and machinery similar to equipment used in the Agriculture/Natural Resources industry. Accordingly, there is a need to continually replace and acquire new equipment whether it is used in the classroom or at Shone Farm. The lengthy Instructional Equipment Request list, outlined in 2.4c, is illustrative of the equipment intensive programs in the Ag/Natural Resources Department. The rationale for all equipment requests is that existing equipment is worn out, out of date, or inadequate. Everything requested is necessary to continue to the Ag/NR Instructional programs at the caliber expected.

## 2.4c Instructional Equipment and Software Requests

Rank	Location	SP	M	Item Description	Qty	Cost Each	Total Cost	Requestor	Room/Space	Contact
0001	Shone Farm	02	01	Soil Science Field Equipment	1	\$10,000.00	\$10,000.00	Agriculture	Shone	Josh Beniston
0002	Santa Rosa	02	01	Mobile Veterinary Clinic	1	\$170,000.00	\$170,000.00	Vet Tech		Dan Famini
0003	Santa Rosa	02	01	Label Maker for plants and POS	1	\$10,000.00	\$10,000.00	HORT	Lark Hall	
0004	Shone Farm	02	01	Sweco Trail Machine	1	\$40,000.00	\$40,000.00	NRM	Shone	Kasey Wade
0005	Shone Farm	02	01	High Tunnel Greenhouse	1	\$16,000.00	\$16,000.00	SUSAG	Shone	Josh Beniston
0006	Shone Farm	02	01	Plant Moisture Equipment	1	\$7,000.00	\$7,000.00	VIT	Shone	Merilark Padgett
0007	Shone Farm	02	01	Saddles and Riding Equipment	10	\$1,000.00	\$10,000.00	EQSCI	Shone	Maxine Freitas
0008	Santa Rosa	02	01	Lab Equipment Microscope	7	\$7,000.00	\$7,000.00	Wine		Kevin Sea
0009	Shone Farm	02	01	Artificial Fert Equip	1	\$12,000.00	\$12,000.00	ANSCI	Shone	
0010	Santa Rosa	02	01	Outreach Equip	7	\$7,000.00	\$7,000.00	AGBUS		George Sellu
0011	Santa Rosa	02	01	Soil mixer and greenhouse lab equipment	1	\$7,500.00	\$7,500.00	HORT		
0012	Shone Farm	02	01	IPads & forestry modeling software	13	\$1,300.00	\$13,000.00	NRM	Shone	Kasey Wade
0013	Shone Farm	02	01	Market Farming Equipment	8	\$800.00	\$8,000.00	SUSAG		Josh Beniston
0014	Shone Farm	02	01	Outdoor Arena Sound System	1	\$5,000.00	\$5,000.00	EqSCI		
0015	Santa Rosa	02	01	AGRI Lab Equipment	1	\$7,000.00	\$7,000.00	AGRI		Josh Beniston
0016	Santa Rosa	02	01	Pruning Equipment	1	\$2,500.00	\$2,500.00	HORT		
0017	Shone Farm	02	01	3D Cow Model	1	\$7,000.00	\$7,000.00	ANSCI		
0018	Shone Farm	02	01	Preision Planter	1	\$25,000.00	\$25,000.00	SUSAG		Josh Beniston
0019	Shone Farm	02	01	Felco Pruners with Holster and Safety Goggles	24	\$80.00	\$1,920.00	Viticulture		Merilark Padgett-Johnson
0020	Santa Rosa	02	01	Lopping Shears, Pruning Shears #6, Grafting Kni	12	\$125.00	\$1,500.00	Environmental Horticulture	Lark Hall	
0021	Shone Farm	02	01	Document Camera	3	\$900.00	\$2,700.00	AGNR	Lark Hall	
0022	Santa Rosa	02	01	Microscopes with 100x objective	20	\$2,000.00	\$40,000.00	Vet Tech	Lark Hall	Dan Famini
0023	Santa Rosa	02	01	Istat chemical chemistry analyzer	1	\$13,400.00	\$13,400.00	Vet Tech	Lark Hall	Dan Famini
0024	Shone Farm	02	01	Livestock breed replacement	1	\$200,000.00	\$200,000.00	Animal Sci, Equine Sci, Vet Te		Ganesan Srinivasan
0025	Shone Farm	02	01	Mazzei Fertilizer Injectors	6	\$200.00	\$1,200.00	AGRI		
0026	Shone Farm	02	01	Irrrometer Soil Tensiometers and Service Equip	4	\$800.00	\$3,200.00	SUSAG/AGRI		Josh Beniston
0027	Shone Farm	02	01	Stainless steel barrels for winemaking/wine 3	1	\$4,000.00	\$4,000.00	Wine Studies		Kevin Sea
0028	Santa Rosa	02	01	Surgical Table and surgical light	1	\$2,700.00	\$2,700.00	Vet tech		Dan Famini
0029	ALL	02	01	Emergency Patient supplies and controlled drug cab	1	\$1,500.00	\$1,500.00	Vet Tech		Dan Famini
0030	ALL	02	01	Holding cages/kennels	4	\$1,000.00	\$4,000.00	Vet Tech		Dan Famini
0031	Santa Rosa	02	01	Nursing Equipment - advanced	1	\$9,200.00	\$9,200.00	Vet Tech	Lark Hall	Dan Famini
0032	Santa Rosa	02	01	Patient Examination Equipment advanced	1	\$9,150.00	\$9,150.00	Vet TEch	Lark Hall	Dan Famini
0033	Santa Rosa	02	01	Magnum Prox9 Airless Paint Sprayer	1	\$649.00	\$649.00	Ag/NR	Lark Hall	
0034	Santa Rosa	02	01	Classroom Chairs for Ag/NR Rooms	150	\$50.00	\$7,500.00	Ag/NR	Lark Hall	
0035	Santa Rosa	02	01	Lab Tables for Ag/NR Rooms	20	\$500.00	\$10,000.00	Ag/NR	Lark Hall	
0036	Shone Farm	02	01	Projector	1	\$1,500.00	\$1,500.00	Wine Studies		Kevin Sea
0037	Santa Rosa	02	01	Dissecting Microscopes	5	\$599.00	\$2,995.00	Vet Tech, An Sci, Eq Sci		Dan Famini
0038	Santa Rosa	02	01	Premium light meter	1	\$500.00	\$500.00	Env Hort		

0039	Shone Farm	02	01	Rain Storage Tank	5	\$2,500.00	\$12,500.00	SUSAG		Kasey Wade
0040	Shone Farm	02	01	60 Gallon Cyclone Compost Tea Brewer	1	\$1,900.00	\$1,900.00	SUSAG		Josh Beniston
0041	Shone Farm	02	01	Cattle Soft Ropes and Web Halter	10	\$100.00	\$1,000.00	Animal Science		
0042	Shone Farm	02	01	Sheep Creep Gate (1 Small and 1 large)	2	\$300.00	\$600.00	Animal Science		
0043	Shone Farm	02	01	Heat Lamp, Auto Waterers, Auto Waters W/Hoses	4	\$500.00	\$2,000.00	Animal Science		
0044	Shone Farm	02	01	Wheelchair Ramp and offside block therapeutic	1	\$6,000.00	\$5,000.00	Equine Science		Maxine Freitas
0045	Santa Rosa	02	01	Radiograph Machine - digital	1	\$130,000.00	\$130,000.00	Vet Tech	Lark Hall	Dan Famini
0046	Santa Rosa	02	01	Analytical balance	1	\$800.00	\$800.00	Wine Studies	Lark Hall	Kevin Sea
0047	Santa Rosa	02	01	Alcolyzer (industry standard alcohol analysis mach	1	\$10,500.00	\$10,500.00	Wine Studies	Lark Hall	Kevin Sea
0048	Santa Rosa	02	01	Canine Skelton Models	1	\$4,000.00	\$4,000.00	ANHLT		Dan Famini
0049	Santa Rosa	02	01	Atago Digital hand-held refractometers and cases	10	\$400.00	\$4,000.00	Ag/NR	Lark Hall	Merilark Padgett-Johnson
0050	Santa Rosa	02	01	Electric Nursery Cart and Battery	1	\$18,000.00	\$18,000.00	HORT		Joel Grogan
0051	Santa Rosa	02	01	Autotitration System	1	\$10,000.00	\$10,000.00	Wine Studies	Lark Hall	Kevin Sea
0052	Santa Rosa	02	01	Microoxygenation System	1	\$10,000.00	\$10,000.00	Wine Studies	Lark Hall	Kevin Sea
0053	Santa Rosa	02	01	Dissolved Oxygen Meter	1	\$10,000.00	\$10,000.00	Wine Studies	Lark Hall	Kevin Sea
0054	Santa Rosa	02	01	Bench top pH meter and Carbodoseur	1	\$1,298.00	\$1,298.00	Wine Studies	Lark Hall	Kevin Sea
0055	Santa Rosa	02	01	Confined space environment monitor/ safety equipme	1	\$2,000.00	\$2,000.00	Wine Studies	Lark Hall	Kevin Sea
0056	Santa Rosa	02	01	Aeration-oxidation glassware	8	\$300.00	\$2,400.00	Wine Studies	Lark Hall	Kevin Sea
0057	Santa Rosa	02	01	Inner Stave System	1	\$1,450.00	\$1,450.00	Wine Studies	Lark Hall	Kevin Sea
0058	Santa Rosa	02	01	Slide Sets and Nutrient Testing equipment	1	\$5,600.00	\$5,600.00	AGRI	Lark Hall	Josh Beniston
0059	Santa Rosa	02	01	Vine Moisture Status Equipment	2	\$5,000.00	\$10,000.00	VIT		Merilark Padgett
0060	ALL	02	01	Tablet Computers with case and protection plan	12	\$600.00	\$7,200.00	AGNR		
0061	Shone Farm	02	01	Portable Livestock Scale	1	\$4,500.00	\$4,500.00	Animal Science		Ganesan Srinivasan
0062	Santa Rosa	02	01	Trailer for Nursery Cart	1	\$3,500.00	\$3,500.00	HORT		
0063	Santa Rosa	02	01	Evaporative Cooling Pads for GH	1	\$3,000.00	\$3,000.00	HORT		
0064	Santa Rosa	02	01	Water Pump	1	\$800.00	\$800.00	HORT		
0065	Santa Rosa	02	01	Tables and Shelving Nursery	1	\$5,000.00	\$5,000.00	HORT		
0066	Santa Rosa	02	01	phase-contrast microscope	2	\$2,000.00	\$4,000.00	Wine		Kevin Sea
0067	Santa Rosa	02	01	Nursery Irrigation Equipment	1	\$4,000.00	\$4,000.00	HORT		
0068	Santa Rosa	02	01	Endoscope ambu v scope 2	1	\$3,220.00	\$3,220.00	Vet Tech	Lark Hall	Dan Famini
0069	Santa Rosa	02	01	Multiple Parameter anesthetic monitor	1	\$8,300.00	\$8,300.00	Vet Tech	Lark Hall	Dan Famini

## 2.4d Non-Instructional Equipment, Software, and Technology Requests

Rank	Location	SP	M	Item Description	Qty	Cost Each	Total Cost	Requestor	Room/Space	Contact
0001	Santa Rosa	02	01	10x12 Storage Shed	1	\$3,000.00	\$3,000.00	Dan Famini		Dan Famini
0002	Shone Farm	02	01	Storage Shed for Theraputic Riding Equip	1	\$3,000.00	\$3,000.00	Eqsci	Shone	Maxine Fretias
0003	Shone Farm	02	01	Storage Shed for Wine Lab Equipment	1	\$2,000.00	\$2,000.00	Wine Studies		Kevin Sea
0004	Santa Rosa	02	01	Storage Shelves/Carts	2	\$1,000.00	\$2,000.00	Ag/NR	Lark	

0005	Shone Farm	02	01	Shuttle Bus	1	\$50,000.00	\$50,000.00	NRM		Kasey Wade
0006	Shone Farm	02	01	Printer/copier	1	\$3,000.00	\$3,000.00	Wine Studies	Shone Farm	Kevin Sea
0007	Santa Rosa	02	01	Propagation/Production tables and carts	1	\$9,000.00	\$9,000.00	HORT	Greenhouse	Joel Grogan
0008	Santa Rosa	02	01	Production Equipment Storage & Maintenance Items	1	\$1,000.00	\$1,000.00	HORT	Greenhouse	Joel Grogan

## 2.5a Minor Facilities Requests

Rank	Location	SP	M	Time Frame	Building	Room Number	Est. Cost	Description
0001	Santa Rosa	04	01	Urgent	Lark Hall Ag Student Lounge	2088	\$5,000.00	Remodel student lounge to convert into student study area.
0002	ALL	00	00	Urgent			\$0.00	Faculty Offices
0003	ALL	00	00	Urgent			\$0.00	Wine Teaching and sensory Analysis classroom (amphitheatre)
0004	ALL	00	00	Urgent			\$0.00	Wine Teaching Lab
0005	Santa Rosa	04	01	Urgent	Lark Greenhouse		\$115,000.00	Upgrades to current environmental horticulture greenhouse- Reglaze glass with twin wall polycarbonate panels.
0006	Shone Farm	04	01	Urgent	Shone Farm		\$3,000.00	SUSAG shed
0007	Santa Rosa	04	01	Urgent	Lark	Central Supply	\$50,000.00	Remodel Central Supply. Additional space needed for storage of supplies/equip
0008	Santa Rosa	04	01	Urgent	Lark Greenhouse		\$1,200.00	Greenhouse vent screens to reduce insect problems and pesticide use.
0009	Santa Rosa	04	01	2-3 Yr			\$0.00	New CAD lab to be shared by EH, NRM, and ApTech
0010	Santa Rosa	04	01	Urgent	Shone		\$150,000.00	Wine Evaluation Lab
0011	Santa Rosa	04	01	Urgent	TBD		\$300,000.00	Construction of a veterinary clinic and laboratory
0012	Santa Rosa	04	01	Urgent	Shone Farm		\$50,000.00	Establish leadership retreat area
0013	Santa Rosa	04	01	Urgent	Lark	2091-2099	\$15,000.00	Remodel, renovate, Lark AG/NR offices to include replacing office suite carpets, blinds, repainting
0014	Santa Rosa	04	01	Urgent	Lark		\$100,000.00	Enlarge access area to central supply and classrooms for loading/unloading and for outside storage
0015	Santa Rosa	04	07	Urgent	Lark Hall		\$5,000.00	Converting office lobby to accommodate administrative assistants
0016	Santa Rosa	04	01	1 Year	Lark Greenhouse		\$1,200.00	Replace peg board and tool hangers. Replace rotting boards-safety issue
0017	Santa Rosa	04	01	Urgent	Lark Greenhouse		\$54,700.00	Upgrades to current environmental horticulture greenhouse- Resurface concrete floor (slip and fall hazard).
0018	Santa Rosa	04	01	1 Year	Lark Hall	2089, 2070	\$50,000.00	Remodel rooms 2089 and 2070. Removing fixed tables, replacing with dynamically designed classroom to allow natural light
0019	Shone Farm	04	01	1 Year	Shone Farm		\$100,000.00	Lab Teaching Classroom

## 2.5b Analysis of Existing Facilities

Existing facilities are accessible to disabled students and staff, and comply with ADA requirements.

### **Environmental Horticulture Greenhouse/Nursery Compound**

The greenhouse/nursery compound *on campus* has been in disrepair and neglect after 34+ years of operation. The unit still serves over 500 students yearly in a myriad of Environmental Horticultural classes, but has not had any significant capital improvements to the facility since the unit was built with the construction of the Lark Hall facility. Due to the delapidated conditions of this unit, serious safety issues have arisen, including student trip and slip hazards, structural collapse and other hazards associated with a glass enclosed compound. The compound is ill suited for the commercial cultural practices associated with the nursery operations such as planting, thinning, transplanting, potting, and other operations. The unit is in need of equipment associated with the nursery operations as well as the landscaping operations conducted on campus.

The Environmental Horticulture Advisory Committee has proposed a design for construction of a new 50,000 square foot Environmental Hort facility to include a commercial greenhouse, covered outdoor instructional area, covered multiple use and storage area, nursery growing grounds, nursery storage, retail sales area, arboretum/outdoor demo garden and plant lab, landscape buffer and vehicle access and circulation area. A Facilities Project Proposal was submitted in October 2007. This new facility would provide more than twice the space of the current facilities. However, it would be smaller than the average horticulture unit among five California community college Environmental Horticulture Programs surveyed, most of which have smaller horticulture enrollments than SRJC. This new state-of-the art horticulture/nursery facility, which would meet the needs of horticulture students for the next several decades.

Pending construction of a new facility, the faculty have identified several smaller, yet critical projects that need completion, e.g. upgrades in the greenhouse and replacement of the nursery shade structure.

### **Lecture/Laboratory Classrooms**

Over 3759 students in the department, and seven full time instructors and over 50 adjunct instructors per semester, utilize the laboratory classrooms in the Lark Hall complex. The classrooms are used from early in the morning to late at night with classes ranging from Soil Science to Vet Practices to Sensory Evaluation of Wines. The classrooms surround a "Central Supply" area which houses laboratory supplies and equipment for the instructors. Thirty four years ago the layout of the complex was one of the best-designed occupational learning facilities in the state of California. But, as teaching styles change over the years, facilities should change to accommodate innovations in instruction. The thirty four year old classrooms need major remodeling for whiteboards, new movable workstations and seating, and enhanced lighting. A new laboratory classroom has been added to the facilities request to address student growth requirements in the Lark classroom area.



## **Vet Tech lab**

The Vet Tech program coordinator has identified a need for students to have much more hands-on instruction in a lab setting. Currently the program coordinator uses a variety of rooms at any given moment. On a typical semester the courses are spread across 6 classrooms (3 on each Santa Rosa and Petaluma Campus) with equipment being transported to each class session. This limits the capacity and quality of the program due to both logistical/transport issues and the very significant time demand on the coordinator which prohibits other activities from being accomplished.

### **3.1 Develop Financial Resources**

### **3.2 Serve our Diverse Communities**

- The AG/NR Department recruits faculty, both contract and adjunct who are sensitive to the diversity of our students and community.
- The program works collaboratively with Human Resources in advertising and marketing to diverse populations.
- The AG/NR Department works with advisory committees, industry and community groups to foster diversity in employment opportunities with our CTE programs.
- The Viticulture program works collaboratively with the Sonoma County Grape Growers with a pilot program called “Workforce Training for Hispanic Workers” to gain upward mobility in management.
- The Ag/NR Department is participating in a US Department of Agriculture grant to train and mentor new farmers and ranchers, with the University of California Cooperative Extension and the Latino Service Providers.

### **3.3 Cultivate a Healthy Organization**

The program encourages and grants release time for professional development, safety training, occupational workshops and software seminars for classified staff.

### **3.4 Safety and Emergency Preparedness**

Debbie Eakins is the Ag/NR safety leader. Debbie ensure that all facets of departmental safety and emergency preparedness are maintained including: MSDS, first aid kits, respirators, seismic preparedness, etc...

Chris Wills is the Shone Farm safety leader.

### **3.5 Establish a Culture of Sustainability**

As farmers and ranchers the Ag/NR Department has an intimate daily relationship with the land, water and air. The land is both our love and our livelihood. Our job is to care for the land, and when we do that well, the land takes care of us.

Accordingly, the Ag/ NR Department engages in an infinite number of sustainable practices, such as:

- Composting
- Rain water harvesting
- Cover crops
- Organic produce production
- Pasture rotation
- Polyculture
- Local marketing via farmers markets, Community Supported Agriculture, SRJC cafeteria, etc...
- Biological pest control
- Crop rotation
- Hedgerows
- Bioswales
- Invasive species reduction

As a result of many of these practices, Shone Farm Vineyards were Certified Sustainable in 2008 and the demonstration and sauvignon blanc blocks were Certified Organic by CCOF.

Students are exposed to all these practices in class as well as in outside endeavors by faculty, such as the student organization, Students for Sustainable Communities (SSC), which is co-advised by Ag/NR faculty member Kasey Wade. This organization that coordinates the sustainability activities of college clubs has been recognized for its efforts as the recipient of the “Best Practice Award” at the 2010 Higher Education Sustainability Conference. Its members have also received other awards for their sustainability practices and efforts, such as:

- Instrumental in getting the college to endorse the Talloires Declaration; collaborated with administration, faculty and staff to make this important signing happen on April 20th, 2011.
- Conducted two successful waste audits on the Bertolini Student Center food waste containers.
- Created the “Green Squad,” an educational team making students and staff aware of the appropriate use of waste receptacles in the Bertolini Student Center Dining Commons.
- Students have led Professional Development workshops for faculty and staff to engage them in discussion on how to make the campuses more sustainable.

Another sustainable practice facilitated by the Ag/NR Department is the propagation of oak seedlings. To emphasize the importance and value of the spectacular oak trees

that inhabit SRJC, the Ag/NR Department propagates oaks seedlings that each student who graduates at the annual May commencement ceremony receives.

Recent grant we have applied for that demonstrate our commitment to sustainable practices include:

- USDA-Farmers Market Program Promotion, \$65,719 (completed in September 2012)
- Summer Ag Academy for Sustainable Agriculture, \$20,914 (completed in August 2012)
- NSF-ATE grant for "Improving Pathways in Sustainable Agriculture Education for the North Bay Region of California", \$200,000 (July 1, 2013 - June 30, 2016)
- Beginning Farmers and Ranchers Development Program, \$269,626 (Oct 2011-August 2014)
- USDA Specialty Crops Block Grant Program "Training the Next Generation of Farmers for the Growing California Oil Oil Industry", \$385,211 (October 2013 - June 2016)
- USDA Specialty Crops Block Grant Program "Innovative Specialty Crops Oriented Program In Education", \$385,925 (October 2013-June 2016)

Departmentally we are committed to the reduce, reuse, recycle philosophies behind the sustainable movement. Accordingly, we recycle "disposable" items, reduce our paper use and reuse instructional materials where ever possible. To further reduce our carbon footprint, with funding, departmentally we would like to secure a biodiesel vehicle to assist in carpooling students to and from Shone Farm.

#### 4.1a Course Student Learning Outcomes Assessment

Our faculty members (full-time and adjunct) assess at least one course SLO every time they teach a course. Faculty members usually share the findings of their course SLO assessments with their discipline colleagues and sometimes the entire department. Sharing the findings of course SLO assessments over the past three years has helped other faculty within the Agriculture and Natural Resource (Ag/NR) department adapt their instructional practice to address similar Student Learning Outcomes in their courses or similar student learning needs. For example, one of our colleagues found that students were not successful in a specific course because of their writing skills. As such, this colleague developed a set of guidelines, tips and a rubric that have contributed to a significant improvement in the quality of student papers. Other faculty members within the department have adopted and adapted these resources to enhance writing within their courses. This response to course SLO assessment has informed the instructional practice of all faculty members and ultimately students success within our department.

Courses within each of the programs within the Agriculture and Natural Resources (Ag/NR) Department are sequenced to meet at least one of the following requirements: SRJC Certificate, Associates Degree, industry certification or industry qualification. Most

of the core courses in our programs are sequenced in order to improve student success. As such, each program offers courses that are sequenced from the introductory level up to capstone courses. In addition to sequenced courses, each program within Ag/NR offers a handful of electives that do not require pre-requisites. The courses within each program are sequenced in order to meet the Program Learning Outcomes (PLOs). Each of the PLOs are assessed in at least one of the courses within that program. Over the past three years, each program has developed a PLO map that shows the alignment between course SLOs and PLOs. Furthermore, each program has a detailed plan with a timeline for assessing all PLOs. As a department that is in tune with industry trends and needs, each program has a plan for assessing course SLOs and subsequently all PLOs within a six-year cycle. Each time a course is revised, our PLOs are revised to reflect the changes in our courses. The revision of course SLOs and PLOs are informed by industry expectations or California State University (CSU) system requirements.

The Agriculture and Natural Resources Department Six Year plan for assessment has the majority of the courses being completed this Spring 2015. The department intends to continue assessing on a six year cycle as indicated in the chart below.

Course	Semester Initiated or to be Initiated	Semester Completed	Year of Next Assessment	Comments
AGBUS 107		NA	Inactivate	Inactivate
AGBUS 2	F2011	F2011	F2015	
AGBUS 51	S2014	S2014	S2018	
AGBUS 52	S2014	S2014	S2018	
AGBUS 56	S2012	F 2013	F2019	
AGBUS 61	S2014	S2014	S2018	
AGBUS 62	S2014	S2014	F2017	
AGBUS 7	S2012	S2012	F2016	
AGBUS 71	F2015	NA	F2015	Reactivated course in 2013
AGMEC 163	F2014	F 2014	F2018	
AGMEC 60	F2014	F 2014	F2020	
AGRI 10	F 2014	F2014	F2020	
AGRI 20	S 2012	S 2012	F2018	
AGRI 50	NA	NA	Inactivate	Inactivate
AGRI 56	F2014	NA	F2015	
AGRI 60	F 2011	F 2011	F 2017	
AGRI 70	S2014	S2014	F 2020	
ANHLT 109	F2014	F2014	F2016	
ANHLT 120	F 2011	F2011	F2015	
ANHLT 121	S2014	S2014	F2016	
ANHLT 123	S2018	S2014	S2018	
ANHLT 126	S2015	S2013	S2017	
ANHLT 141	S2013	S2013	S2016	
ANHLT 142	S2014	S2014	F2017	
ANHLT 151	F 2012	F2012	S2016	
ANHLT 161	S2017	S2015	S2017	
ANHLT 50	S2012	S2012	F2015	
ANHLT 52	F2014	F2014	F2017	
ANSCI 153	F2014	F2014	F2016	
ANSCI 171	F2014	F2014	F2020	
ANSCI 2	S2011	S2011	S2018	

ANSCI 20	F 2011	F2011	F2017	
ANSCI 26	S 2012	S2012	S2018	
ANSCI 27	S 2011	S2011	S2016	
ANSCI 28	S2016	S2014	S2016	
ANSCI 29	F2015	NA	F2016	
ANSCI 50	F2012	F2012	F2016	
ANSCI 51	F2014	F2014	F2018	
ANSCI 61	F2013	F2013	F2015	
ANSCI 91	S2015	S2015	S2017	
EQSCI 101	S2014	S2014	S 2019	
EQSCI 102A	S2014	S2014	S 2019	
EQSCI 102B	F2014	F2014	Inactivate	Inactivate
EQSCI 102C	F2014	F2014	Inactivate	Inactivate
EQSCI 120	S2015	S2014	S2020	
EQSCI 121	F 2015	NA	Inactivate	Inactivate
EQSCI 122	F 2015	NA	Inactivate	Inactivate
EQSCI 125	S 2016	NA	Inactivate	Inactivate
EQSCI 151	S 2016	X2014	S 2016	
EQSCI 162	S 2016	NA	Inactivate	Inactivate
EQSCI 170	F 2014	F2014	F 2020	
EQSCI 180	F 2015	NA	Inactivate	Inactivate
EQSCI 25	F2014	F2014	F2014	
EQSCI 51	F 2011	F 2011	Inactivate	Inactivate
EQSCI 52	S2014	S2014	S 2019	
EQSCI 53	S2014	S2014	S 2019	
EQSCI 60	NA	NA	Inactivate	Inactivate
EQSCI 80	S 2015	S2014	Inactivate	Inactivate
HORT 110	F 2013	S2013	F 2020	
HORT 111	F2020	NA	F 2020	
HORT 112	F 2013	F2013	S 2021	
HORT 115	NA	Na	Inactivate	Inactivate
HORT 115.1	NA	NA	Inactivate	Inactivate
HORT 119	S2014	S2014	F 2019	
HORT 12	S 2013	S2014	S 2016	
HORT 151	F 2013	F2013	F 2018	
HORT 153	F2015		F2015	
HORT 171	S 2013	F 2013	F 2018	
HORT 180	S2014	S2014	S 2019	
HORT 181	S2012	S2012	F 2018	
HORT 189	S 2014	S2014	S 2019	
HORT 195A	S 2014	S2014	S 2020	
HORT 195B	S 2014	S2014	S 2020	
HORT 195C	S 2014	S2014	S 2020	
HORT 50.1	S 2011	S2011	F 2017	
HORT 50.2	F 2012	S2013	F 2016	
HORT 56	F2015		F2015	
HORT 65	F 2012	F2012	F 2015	
HORT 66	S 2013	F2013	S 2017	
HORT 70	S 2013	S2013	S 2017	
HORT 71	F 2012	S2013	F 2015	

HORT 72	S 2014	S2014	S 2016	
HORT 8	F 2013	F 2014	F 2015	
HORT 80	S 2012	S2012	S 2018	
HORT 81	NA	NA	Inactivate	Inactivate
HORT 82	NA	NA	Inactivate	Inactivate
HORT 82.1	NA	NA	Inactivate	Inactivate
HORT 91	F 2012	S2012	F 2017	
HORT 92.1	S 2013	S2013	S 2016	
HORT 92.2	S2013	S2013	F 2017	
HORT 93	F2011	F2011	F 2019	
HORT 94	S2014	S2014	S 2021	
NRM 102	NA	NA	Inactivate	Inactivate
NRM 103	S2014	S2014	S2020	
NRM 110	NA	NA	Inactivate	Inactivate
NRM 111	F2014	F2014		
NRM 12	S2010	S2010		
NRM 121	F2016	NA	Inactivate	Inactivate
NRM 131	S2013	S2013	Sum2015	
NRM 132	S2014	S2014	S2020	
NRM 141	S2014	S2014	S2020	
NRM 142	S2015	NA	S2015	
NRM 51	S2011	S2011	S2015	
NRM 56	S2015	NA	S2015	
NRM 60	S2012	S2012	S2018	
NRM 61	NA	NA	Inactivate	Inactivate
NRM 63	F2011	F2011	F2017	
NRM 65	NA	NA	Inactivate	Inactivate
NRM 66	S2012	S2012	S2016	
NRM 67	F2014	F2014	F2018	
NRM 70	F2014	F2014	F14	In Progress
NRM 72	S2014	S2014	S2020	
NRM 73	F2014	F2014	F2015	
NRM 84	S2014	S2014	S2020	
NRM 85	S2014	S2014	S2020	
NRM 86	S2015	S2015	S2015	
NRM 87	X2015	X2014	X2015	
NRM 88	S2013	S2013	S2015	
NRM 91	S2015	S2015	S2015	
SUSAG 103	S2014	S2014	S2020	
SUSAG 109	S 2015	S2015	S 2015	
SUSAG 116	NA	NA	Inactivate	Inactivate
SUSAG 117	X2014	X2014	X2020	
SUSAG 118	NA	NA	Inactivate	Inactivate
SUSAG 119	X2014	X2014	S 2015	
SUSAG 120	F2014	F2014	F2020	
SUSAG 151	NA	NA	Inactivate	Inactivate
SUSAG 153	F 2014	F2014	F2020	
SUSAG 160	F 2014	F2014	F 2014	
SUSAG 162	NA	NA	Inactivate	
SUSAG 163	X2015	NA	X2015	

SUSAG 50	F 2013	F 2013	F 2019
SUSAG 64	S2014	S2014	S 2017
SUSAG 65	F2015	NA	F2015
VIT 1	F 2012	F 2012	2015
VIT 113	S 2014	S 2014	2017
VIT 120	2013	2014	2016
VIT 121	S2014	S2014	
VIT 122	F2014	F2014	2015
VIT 123	S 2012	S 2012	2018
VIT 130	S 2014	S 2014	2020
VIT 131	S 2014	S 2014	2017
VIT 132	S 2014	S 2014	2016
VIT 133	S 2012	S 2012	2015
VIT 51	F 2012	F 2012	2016
VIT 52	S 2010	F 2010	2017
VIT 53	S 2013	F 2013	2018
VIT 54	S 2014	S 2014	2020
VIT 55	S 2011	S 2011	2016
VIT 60	F 2011	F 2011	2019
WINE 1	2012-13	2013	2018
WINE 101	F 2014	F 2014	2020
WINE 102	S 2015	F 2013	2020
WINE 103	F 2014	F 2014	2020
WINE 104	F 2015	S 2012	2021
WINE 105	F 2015	X2014	2021
WINE 110	F2014	F2014	2020
WINE 111	F 2012	F 2012	2018
WINE 112	F 2012	F 2012	2018
WINE 113	F 2012	F 2012	2018
WINE 114	F 2012	F 2012	2018
WINE 115	F 2014	F2014	2020
WINE 116	F 2014	F2014	2020
WINE 117	F 2014	F2014	2020
WINE 118	F 2012	F 2012	2018
WINE 119	2011-12	2012	2018
WINE 121	S 2014	S 2014	2020
WINE 122	F 2014	F 2014	2020
WINE 124	2011-12	2012	2018
WINE 125	S 2015	F2013	2021
WINE 130	S 2014	S 2014	2020
WINE 131	S 2015	S 2015	2021
WINE 150	NA	NA	Inactivate Inactivate
WINE 3	S 2014	S 2014	2020
WINE 42.1	F 2014	F 2014	2020
WINE 42.2	S 2014	S 2014	2020
WINE 55A	S 2015	F2014	2015
WINE 55B	F 2015	S2012	2015
WINE 56	F 2012	Sp 2013	2019
WINE 62	Sp 2014	Sp 2014	2020
WINE 70	F 2014	F2014	2020

## 4.1b Program Student Learning Outcomes Assessment

Program Level Student Learning Outcomes (SLOs) within the Ag/NR Department are completed for all programs: Natural Resource Management, Viticulture, Animal Science, Equine Science, Veterinary Technician, Environmental Horticulture, Sustainable Agriculture, Agriculture Business Management, Agriculture Science, Education and Communication, and Wine Studies. Anchor program coordinators work to ensure course offerings continue to meet program level student learning outcomes on an annual basis.

## 4.1c Student Learning Outcomes Reporting

Type	Name	Student Assessment Implemented	Assessment Results Analyzed	Change Implemented
Course	AGBUS 107 -MATH APPS IN AGRIC*	N/A	N/A	N/A
Course	AGBUS 2 - AG COMPUTER APPLICAT	Fall 2011	Fall 2011	Spring 2012
Course	AGBUS 51 - AGRICULTURE LEADERS	Spring 2014	Spring 2014	N/A
Course	AGBUS 52 - AG OFFICER TRAINING	Spring 2014	Spring 2014	N/A
Course	AGBUS 56 - INTRO AG WINE BUS M	Spring 2012	Fall 2013	N/A
Course	AGBUS 61 - AGRICULTURAL MARKET	Spring 2014	Spring 2014	Spring 2014
Course	AGBUS 62 - AG SALES/COMMUNICAT	Spring 2014	Spring 2014	Spring 2014
Course	AGBUS 7 - AG ECON	Spring 2012	Spring 2012	N/A
Course	AGBUS 71 - AGRICULTURAL ACCNT	N/A	N/A	N/A
Course	AGMEC 163 - SMALL GAS ENGINES	Fall 2014	Fall 2014	Fall 2014
Course	AGMEC 60 - AG MACHINE/EQUIP SK	Fall 2014	Fall 2014	Fall 2014
Course	AGRI 10 - INTRO AG SCIENCES	Fall 2014	Fall 2014	Fall 2014
Course	AGRI 20 - INTRO TO PLANT SCIEN	Spring 2012	Spring 2012	Fall 2013
Course	AGRI 50 -INTRO AGRICULTURE ED*	N/A	N/A	N/A
Course	AGRI 56 - AG ENTERPRISE PROJEC	N/A	N/A	N/A
Course	AGRI 60 - SOIL & PLANT NUTRITI	Fall 2011	Fall 2011	Spring 2012
Course	AGRI 70 - INT PEST MANAGEMENT	Spring 2014	Spring 2014	Spring 2014
Course	ANHLT 109 - COMP/ALT VEG MED	Fall 2014	Fall 2014	Fall 2014
Course	ANHLT 120 - SML ANIML VET ASSI	Fall 2011	Fall 2011	Spring 2012
Course	ANHLT 121 - ANAT SURGICAL/DENT	Spring 2014	Spring 2014	Spring 2014
Course	ANHLT 123 - SMALL ANIMAL VET E	Spring 2013	Spring 2013	Spring 2013
Course	ANHLT 126 - VET TECH PROFICIEN	Spring 2013	Spring 2013	Spring 2013
Course	ANHLT 141- SM. AN. VET ANESTH	Spring 2014	Spring 2014	N/A
Course	ANHLT 142-VET PHARM MED CALCS	Spring 2014	Spring 2014	Spring 2014
Course	ANHLT 151-VET LAB IMAGING	Fall 2012	Fall 2012	Spring 2013
Course	ANHLT 161 - VETERIN OFF PROCED	Spring 2015	Spring 2015	Spring 2015
Course	ANHLT 50 - VETERINARY ANATOMY	Spring 2012	Spring 2012	Fall 2012



Course	ANHLT 52 - SML ANM REC/TRANS C	Fall 2014	Fall 2014	N/A
Course	ANSCI 153 - SUS ANIMAL PROD	Fall 2014	Fall 2014	Fall 2014
Course	ANSCI 171-BEHAVIOR & HUMANE MG	Fall 2014	Fall 2014	Fall 2014
Course	ANSCI 2 - VETERINARY PRACTICES	Spring 2011	Spring 2011	Spring 2012
Course	ANSCI 20 - BASIC ANIMAL SCIENC	Fall 2011	Fall 2011	Fall 2012
Course	ANSCI 26 - LIVESTOCK EVALUATIO	Spring 2012	Spring 2012	Spring 2014
Course	ANSCI 27 - BEEF CATTLE SCIENCE	Spring 2011	Spring 2011	Spring 2013
Course	ANSCI 28 - SHEEP SCIENCE	Spring 2014	Spring 2014	Spring 2014
Course	ANSCI 29 - DAIRY CATTLE SCIENC	N/A	N/A	N/A
Course	ANSCI 50 - POULTRY MGMT	Fall 2012	Fall 2012	N/A
Course	ANSCI 51-ANAT/PHYS FARM ANIMAL	N/A	N/A	N/A
Course	ANSCI 61 - LIVESTOCK FEED/NUTR	Fall 2013	Fall 2013	N/A
Course	ANSCI 91 - RANGELAND MANAGEMEN	Spring 2015	Spring 2015	Spring 2015
Course	EQSCI 101 - HORSE HANDLING SKI	Spring 2014	Spring 2014	Spring 2014
Course	EQSCI 102A - BEG HORSEMANSHIP/	Spring 2014	Spring 2014	Spring 2014
Course	EQSCI 102B - INT HORSEMANSHIP/	Fall 2014	Fall 2014	N/A
Course	EQSCI 102C - ADV HORSEMANSHIP/	Fall 2014	Fall 2014	N/A
Course	EQSCI 120 - INTRO THER RIDING	Spring 2014	Spring 2014	Spring 2014
Course	EQSCI 121 - THERAPEUTIC RIDING	N/A	N/A	N/A
Course	EQSCI 122 - THER RIDING PRO OP	N/A	N/A	N/A
Course	EQSCI 125 -BASICS OF DRESSAGE*	N/A	N/A	N/A
Course	EQSCI 151 - EQUINE ACCUPRESSUR	Summer 2014	Summer 2014	Summer 2014
Course	EQSCI 162 -HORSE HOUSE & FACI*	N/A	N/A	N/A
Course	EQSCI 170 - FARRIER SCIENCE	Fall 2014	Fall 2014	Fall 2014
Course	EQSCI 180 -EQUINE BUSINESS MG*	N/A	N/A	N/A
Course	EQSCI 25 - EQUINE SCIENCE	Fall 2014	Fall 2014	Fall 2014
Course	EQSCI 51 - EQUINE NUTRITION	Fall 2011	Fall 2011	Fall 2012
Course	EQSCI 52 - EQUINE HEALTH	Spring 2014	Spring 2014	N/A
Course	EQSCI 53 - EQUINE REPRODUCTION	Spring 2014	Spring 2014	Spring 2014
Course	EQSCI 60 - EQUINE ANATOMY/PHYS	N/A	N/A	N/A
Course	EQSCI 80 - EQUINE & STABLE MG*	Fall 2014	Fall 2014	Fall 2014
Course	HORT 110 - UNIQUE TREES NO. CA	Fall 2013	Fall 2013	Fall 2013
Course	HORT 111 - UNIQ SHRBS, VNS, GC	N/A	N/A	N/A
Course	HORT 112 - PERENNIALS FOR SO C	Fall 2013	Fall 2013	Fall 2013
Course	HORT 115 - ORNAMENTAL GRASSES	N/A	N/A	N/A
Course	HORT 115.1 - DSGN ORNAMENTAL G	N/A	N/A	N/A
Course	HORT 119 - LNDSCPNG CALIF NTV	N/A	N/A	N/A
Course	HORT 12 - PLNT MATERIALS: WIN/	Spring 2013	Spring 2014	Spring 2013
Course	HORT 151 - PRUNING ORNAMENTALS	Fall 2013	Fall 2013	N/A
Course	HORT 153 - BASIC TURF CARE	N/A	N/A	N/A
Course	HORT 171 - IPM IN HORTICULTURE	Spring 2013	Fall 2013	Spring 2013
Course	HORT 180 - WATER CONSERVING LA	Spring 2014	Spring 2014	N/A
Course	HORT 181 - WATER EFFIC LANDSCA	Spring 2012	Fall 2011	Fall 2013
Course	HORT 189 - LNDSCP DRAINAGE BAS	Spring 2014	Spring 2014	N/A
Course	HORT 195A - CAD:LANDSCAPE SITE	Spring 2014	Spring 2014	N/A
Course	HORT 195B - CAD:PLANTING PLANS	Spring 2014	Spring 2014	N/A
Course	HORT 195C - CAD:IRRIGATION PLA	Spring 2014	Spring 2014	N/A
Course	HORT 50.1 - INTRO HORTICULTURA	Spring 2011	Spring 2011	Fall 2011
Course	HORT 50.2 - HORT INDUSTRY & CA	Fall 2012	Spring 2013	N/A
Course	HORT 56 - ENTERPRISE PROJECT	N/A	N/A	N/A
Course	HORT 65 - HORT WORKPLACE PRACS	Fall 2012	Fall 2012	Fall 2013
Course	HORT 66 - GRADEN CENTER OPS	Spring 2013	Fall 2013	Spring 2014
Course	HORT 70 - PLANT PROPAGATION	Spring 2013	Spring 2013	N/A
Course	HORT 71 - NURSERY PRODUCTION	Fall 2012	Spring 2013	Fall 2013
Course	HORT 72 - GREENHOUSE PRODUCTIO	Spring 2014	Spring 2014	N/A
Course	HORT 8 - PLANT MATERIALS: SU/F	Fall 2013	Spring 2014	N/A
Course	HORT 80 - LANDSCAPE PRACTICES	Spring 2012	Spring 2012	Spring 2013
Course	HORT 81 - TURFGRASS MGMT*	N/A	N/A	N/A

Course	HORT 82 - INTRO TO ARBORICULT*	N/A	N/A	N/A
Course	HORT 82.1 - TREE HEALTH MGT*	N/A	N/A	N/A
Course	HORT 91 - LANDSCAPE CONST/ESTI	Fall 2012	Spring 2012	Fall 2013
Course	HORT 92.1 - LANDSCAPE IRRIGATI	Spring 2013	Spring 2013	Spring 2014
Course	HORT 92.2 - LOW VOLUME LANDSC	Spring 2013	Spring 2013	Spring 2014
Course	HORT 93 - LANDSCAPE DRAFT & DE	Fall 2011	Fall 2011	Fall 2012
Course	HORT 94 - LANDSCAPE DESIGN APPL	Spring 2014	Spring 2014	Spring 2015
Course	NRM 102 - NATIVE PLANTS RES*	N/A	N/A	N/A
Course	NRM 103 - RESTROING NATIVE HAB	Spring 2014	Spring 2014	Spring 2014
Course	NRM 110 -INTERP INTERACTION T*	N/A	N/A	N/A
Course	NRM 111 - ORIENTAT NAT RES PRK	Fall 2014	Fall 2014	Fall 2014
Course	NRM 12 - INTRO TO ENVIRON CONS	Spring 2010	Spring 2010	Fall 2011
Course	NRM 121 -GLOBAL POSITIONING S*	N/A	N/A	N/A
Course	NRM 131 - TRAILS MAINT/RECONST	Spring 2013	Spring 2013	N/A
Course	NRM 132 - CHAINSAW OPER/CARE	Spring 2014	Spring 2014	Spring 2014
Course	NRM 141 - BEG ROCK CLIMBING/SA	Spring 2014	Spring 2014	Spring 2014
Course	NRM 142 - ORIENTEERING WILDERN	N/A	N/A	N/A
Course	NRM 51 - WILDLAND TREE/SHRUBS	Spring 2011	Spring 2011	Spring 2012
Course	NRM 56 - ENTERPRISE PROJECT	N/A	N/A	N/A
Course	NRM 60 - INTRO TO OUTDOOR REC	Spring 2012	Spring 2012	N/A
Course	NRM 61 - OUTDOOR REC MGT	N/A	N/A	N/A
Course	NRM 63 - PARK INTERPRETATION	Fall 2011	Fall 2011	Fall 2012
Course	NRM 65 - REC FACILITY MAINT	N/A	N/A	N/A
Course	NRM 66 - WILDERNESS SKILLS	Spring 2012	Spring 2012	Spring 2014
Course	NRM 67-REC FACILITY MGMT	Fall 2014	Fall 2014	N/A
Course	NRM 70 - FOREST PRACTICES	Fall 2014	Fall 2014	Fall 2014
Course	NRM 72 - FIRE CNTROL/ITS USE	Spring 2014	Spring 2014	Spring 2014
Course	NRM 73 - INTRO FOREST MEASUREM	Fall 2014	Fall 2014	N/A
Course	NRM 84 - INTRO FISH/WILDLIFE C	Spring 2014	Spring 2014	Spring 2014
Course	NRM 85 - FOR HYDROL & WTRSHD M	Spring 2014	Spring 2014	Spring 2014
Course	NRM 86 - WATERSHED MONITR/ASSM	Spring 2015	Spring 2015	Spring 2015
Course	NRM 87 - GIS APPLIC IN NAT RES	Summer 2014	Summer 2014	Summer 2014
Course	NRM 88 - WATRSHD ECOL/RESTORAT	Spring 2013	Spring 2013	N/A
Course	NRM 91 - RANGELAND MANAGEMENT	Spring 2015	Spring 2015	Spring 2015
Course	SUSAG 103 - AGRICULTURAL COMPO	Spring 2014	Spring 2014	Spring 2014
Course	SUSAG 109 - ORGANIC CROP PLANN	Spring 2015	Spring 2015	Spring 2015
Course	SUSAG 116 - ORGANIC APPLE PROD	N/A	N/A	N/A
Course	SUSAG 117 - ORG FRUIT TREE & B	Summer 2014	Summer 2014	N/A
Course	SUSAG 118 - OLIVE OIL PROD & E	N/A	N/A	N/A
Course	SUSAG 119 - SPECIALTY CROP PRO	Summer 2014	Summer 2014	N/A
Course	SUSAG 120 - OR GRDING & FOOD P	Fall 2014	Fall 2014	N/A
Course	SUSAG 151 -HYDROPONIC FOOD PR*	N/A	N/A	N/A
Course	SUSAG 153 - CSA	Fall 2014	Fall 2014	N/A
Course	SUSAG 160 - DIRECT FARM MARKET	Fall 2014	Fall 2014	N/A
Course	SUSAG 162 - CSA LATE SPRING	N/A	N/A	N/A
Course	SUSAG 163 - CSA SUMMER	N/A	N/A	N/A
Course	SUSAG 50 - INTRO SUSTAIN AGRI	Fall 2013	Fall 2013	Fall 2013
Course	SUSAG 64 - WARM SEASON VEG PRO	Spring 2014	Spring 2014	N/A
Course	SUSAG 65 - COOL SEASON VEG PRO	N/A	N/A	N/A
Course	VIT 1 - WORLD VIT & WINE STYLE	Fall 2012	Fall 2012	Spring 2013
Course	VIT 113 - ORGANIC VITICULTURE	Spring 2014	Spring 2014	Spring 2014
Course	VIT 120 - VINEYARD PRUNING	Spring 2014	Spring 2014	Spring 2014
Course	VIT 121 - PRUNING TECHN VINE B	Spring 2014	Spring 2014	N/A
Course	VIT 122 - VINE CANOPY MNGMT	Spring 2014	Spring 2014	Spring 2014
Course	VIT 123 - SPRING BUD & GRAFT	Spring 2012	Spring 2012	Spring 2013
Course	VIT 130 - GRAPEVINE PHYSIOLOGY	Spring 2014	Spring 2014	Spring 2014
Course	VIT 131 - FRUIT QUALITY ASSURA	Spring 2014	Spring 2014	Spring 2014
Course	VIT 132 - ADVANCES IN VINEYARD	Spring 2014	Spring 2014	Spring 2014

Course	VIT 133 - ADVANCES IN VITICULT	Spring 2012	Spring 2012	Spring 2013
Course	VIT 51 - VITICULTURE: FALL PRA	Fall 2012	Fall 2012	Fall 2013
Course	VIT 52 - VITICULTURE: SPRING P	Spring 2010	Fall 2010	Spring 2011
Course	VIT 53 - ADV VINEYARD PRODUCTI	Spring 2013	Fall 2013	Spring 2013
Course	VIT 54 - VIT: SUMMER PRACTICES	Spring 2014	Spring 2014	Spring 2014
Course	VIT 55 - BASIC WINE VITICULTUR	Spring 2011	Spring 2011	Spring 2012
Course	VIT 60 - VINEYARD MANAGEMENT	Fall 2011	Fall 2011	Fall 2012
Course	WINE 1 - WORLD VIT & WINE STYL	Fall 2012	Fall 2012	N/A
Course	WINE 101 - WINE SALES AND DIST	Fall 2014	Fall 2014	Fall 2014
Course	WINE 102 - WINES GLBL MRKT/RTL	Fall 2013	Fall 2013	Fall 2013
Course	WINE 103 - CONSUMER DIRECT WIN	Fall 2014	Fall 2014	Fall 2014
Course	WINE 104 - AG & WINE MKTG FNDM	Fall 2012	Fall 2012	Fall 2012
Course	WINE 105 - WINE PUBLIC RELATIO	Summer 2014	Summer 2014	Summer 2014
Course	WINE 110 - PROF WINE JUDGING	Fall 2012	Fall 2012	Spring 2013
Course	WINE 111 - SONOMA APPELLATIONS	Fall 2012	Fall 2012	Fall 2013
Course	WINE 112 - WINE REGIONS OF CAL	Fall 2012	Fall 2012	Spring 2013
Course	WINE 113 - WINEMAKERS OF SONOM	Fall 2012	Fall 2012	Spring 2013
Course	WINE 114 - WINES OF CLAIF & EU	Fall 2012	Fall 2012	Spring 2013
Course	WINE 115 - WINES OF CA AUST/NE	Fall 2014	Fall 2014	Fall 2014
Course	WINE 116 - WINES OF ITALY	Fall 2014	Fall 2014	Fall 2014
Course	WINE 117 - WINES OF FRANCE	Fall 2014	Fall 2014	Fall 2014
Course	WINE 118 - ZINFANDEL-GRAPE TO	Fall 2012	Fall 2012	Spring 2013
Course	WINE 119 - EXAMINATION/PINOT N	Fall 2012	Fall 2012	Fall 2012
Course	WINE 121 - WINES OF SPAIN	Spring 2014	Spring 2014	N/A
Course	WINE 122 - DESSERT WINES OF WO	Fall 2014	Fall 2014	Fall 2014
Course	WINE 124 - CABERNET SAUVIGNON	Fall 2014	Fall 2014	N/A
Course	WINE 125 - NAPA VALLEY	Fall 2013	Fall 2013	Fall 2013
Course	WINE 130 - WINE SERVICE HOSPIT	Spring 2014	Spring 2014	N/A
Course	WINE 131 - WINE IND EVENT PLAN	Spring 2015	Spring 2015	Spring 2015
Course	WINE 150 - AMATEUR WINEMAKING	N/A	N/A	N/A
Course	WINE 3 - INTRO TO ENOLOGY	Spring 2014	Spring 2014	N/A
Course	WINE 42.1 - FALL WINERY OPERAT	Fall 2014	Fall 2014	N/A
Course	WINE 42.2 - SPR WINERY OPERATI	Spring 2014	Spring 2014	N/A
Course	WINE 55A - LAB ANALYSIS OF WIN	Fall 2014	Fall 2014	Fall 2014
Course	WINE 55B - LAB ANALYSIS OF WIN	Fall 2012	Fall 2012	Fall 2012
Course	WINE 56 - INTRO AG/WINE BUS MG	Fall 2012	Spring 2013	N/A
Course	WINE 62 - AG SALES/COMMUNICATI	Spring 2014	Spring 2014	N/A
Course	WINE 70 - WINE COMP TASTING	Fall 2014	Fall 2014	Fall 2014

#### 4.2a Key Courses or Services that address Institutional Outcomes

[illegible]

ANHLT 151	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ANHLT 161	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ANHLT 50	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ANHLT 51	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ANHLT 52	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ANSCI 150	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ANSCI 171	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ANSCI 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ANSCI 20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ANSCI 26			X	X	X	X	X	X	X	X	X	X	X	X	X	X
ANSCI 27	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ANSCI 28	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ANSCI 29	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ANSCI 51	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ANSCI 61	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ANSCI 65	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ANSCI 91	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
EQSCI 100	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
EQSCI 101	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
EQSCI 102 A, B, C	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
EQSCI 120	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
EQSCI 121	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
EQSCI 122	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
EQSCI 125	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
EQSCI 150	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
EQSCI 151	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
EQSCI 154	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
EQSCI 162	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
EQSCI 170	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
EQSCI 180	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
EQSCI 25	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
EQSCI 51	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
EQSCI 52	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
EQSCI 53	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
EQSCI 60	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
EQSCI 80	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 110	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 111	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 112	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 115	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 115.1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 119	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 12			X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 151	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 153	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 171	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 180	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 181	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 195 (A,B,C)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 50.1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 50.2			X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 56	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 65	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 66	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 70			X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 71	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 72	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 8			X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 80	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 81	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 82	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 82.1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 91	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 92.1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 92.2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 93	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HORT 94	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
NRM 102	X	X	X	X	X	X	X	X	X	X	X			X	X	X
NRM 103	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
NRM 110	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
NRM 111	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
NRM 12	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
NRM 121	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
NRM 131	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

[illegible]

WINE 114	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WINE 115	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WINE 116	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WINE 116.2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WINE 117	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WINE 118	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WINE 119	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WINE 120	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WINE 121	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WINE 122	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WINE 124	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WINE 125	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WINE 130			X	X	X	X	X	X	X	X	X	X	X	X	X	X
WINE 131	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WINE 150	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WINE 151	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WINE 3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WINE 42.1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WINE 42.2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WINE 55A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WINE 55B	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WINE 56	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WINE 62	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WINE 70			X	X	X	X	X	X	X	X	X	X	X	X	X	X

## 4.2b Narrative (Optional)

All courses are written and evaluated during the curriculum process to reflect institutional student learning outcomes. The new curriculum is reviewed by each Occupational Program Advisory Committee which reflects industry needs and services.

## 5.0 Performance Measures

NA

## 5.1 Effective Class Schedule: Course Offerings, Times, Locations, and Delivery Modes (annual)

- The AG/NR Department offers courses Monday through Friday, evening classes and weekend courses. Classes are offered based on student needs, maximizing use of college facilities, serving new or targeted populations, and ensuring enrollment growth sufficient to fund ongoing district operations. Many short courses are offered, ie.. 2-8 weeks, Fri/Sat, two weekends, etc.
- The majority of classes are offered on Santa Rosa campus and the SRJC Shone Farm. The Natural Resource Management, Veterinary Technician, and Wine Studies programs also offer courses on the Petaluma Campus. Classes are also occasionally offered off site, such as Elise Allen High School, Pepperwood Preserve, Equi-Ed, and Animal Care Center.
- The department believes strongly in hands-on experience. Unfortunately, classes with labs require lab set up and clean-up, and the department is too understaffed at Shone Farm, Santa Rosa, and Petaluma to set up any more labs. The current tenuous status of our classified staffing precludes any attempts to offer more sections of lecture/lab based classes or development of further curriculum in this format.

- There is always a demand for specific courses to meet the needs of industry. Faculty meet regularly with their respective advisory committees for updates in the industry and seek advice and recommendations concerning new courses.

## Santa Rosa Junior College - Program Unit Review

### Agriculture - FY 2013-14 (plus current FY Summer and Fall)

#### 5.1 Student Headcounts The number of students enrolled in each Discipline at first census (duplicated headcount).

##### Santa Rosa Campus

Discipline	X2011	F2011	S2012	X2012	F2012	S2013	X2013	F2013	S2014
Agriculture (AG)	0	0	0	0	0	0	0	0	0
Agriculture (AGRI)	16	136	103	17	92	97	45	145	137
Agriculture Business	0	111	102	0	98	111	0	101	103
Agriculture Mechanics	0	2	2	0	4	2	0	1	2
Animal Health	0	167	100	0	219	116	0	265	102
Animal Science	0	86	0	0	43	0	0	29	0
Equine Science	0	71	0	0	25	0	0	30	0
Forestry	0	0	0	0	0	0	0	0	0
Horticulture	0	253	189	0	237	204	0	249	225
Natural Resources	51	80	109	25	89	65	22	78	222
Sustainable Agriculture	0	0	0	0	0	0	0	0	0
Viticulture	0	87	68	0	85	75	0	66	66
Wine Studies	0	260	182	0	217	166	0	238	251
<b>ALL Disciplines</b>	<b>67</b>	<b>1253</b>	<b>855</b>	<b>42</b>	<b>1109</b>	<b>836</b>	<b>67</b>	<b>1202</b>	<b>1108</b>

##### Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2011	F2011	S2012	X2012	F2012	S2013	X2013	F2013	S2014
Agriculture (AG)	0	0	0	0	0	0	0	0	0
Agriculture (AGRI)	0	0	0	0	0	0	0	0	0
Agriculture Business	0	0	0	0	0	0	0	0	0
Agriculture Mechanics	0	0	0	0	0	0	0	0	0
Animal Health	0	92	191	0	75	158	0	61	191
Animal Science	0	0	0	0	0	0	0	0	0
Equine Science	0	0	0	0	0	0	0	0	0
Forestry	0	0	0	0	0	0	0	0	0
Horticulture	0	0	0	0	0	0	0	0	0
Natural Resources	0	0	0	0	0	0	0	0	28
Sustainable Agriculture	0	0	0	0	0	0	0	0	0
Viticulture	0	0	0	0	0	0	0	0	0
Wine Studies	0	24	21	0	0	2	0	0	0
<b>ALL Disciplines</b>	<b>0</b>	<b>116</b>	<b>212</b>	<b>0</b>	<b>75</b>	<b>160</b>	<b>0</b>	<b>61</b>	<b>219</b>

##### Other Locations (Includes the PSTC, Windsor, and other locations)

Discipline	X2011	F2011	S2012	X2012	F2012	S2013	X2013	F2013	S2014
Agriculture (AG)	0	0	0	0	0	0	0	0	0
Agriculture (AGRI)	0	3	37	23	5	41	0	1	34
Agriculture Business	0	0	0	0	0	0	0	0	0
Agriculture Mechanics	0	17	0	0	0	0	0	33	0
Animal Health	0	0	0	0	0	0	0	0	0
Animal Science	0	0	88	0	44	63	0	59	66
Equine Science	0	89	122	0	99	153	0	106	121
Forestry	0	0	0	0	0	0	0	0	0
Horticulture	0	0	0	0	0	0	0	0	0
Natural Resources	0	96	150	0	82	159	0	79	42
Sustainable Agriculture	36	95	114	0	61	108	57	68	98
Viticulture	40	115	171	31	87	163	55	96	189
Wine Studies	57	17	76	0	151	151	0	92	96
<b>ALL Disciplines</b>	<b>133</b>	<b>432</b>	<b>758</b>	<b>54</b>	<b>529</b>	<b>838</b>	<b>112</b>	<b>534</b>	<b>646</b>

##### ALL Locations (Combined totals from ALL locations in the District)

Discipline	X2011	F2011	S2012	X2012	F2012	S2013	X2013	F2013	S2014
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Agriculture (AG)	0	0	0	0	0	0	0	0	0
Agriculture (AGRI)	16	139	140	40	97	138	45	146	171
Agriculture Business	0	111	102	0	98	111	0	101	103
Agriculture Mechanics	0	19	2	0	4	2	0	34	2
Animal Health	0	259	291	0	294	274	0	326	293
Animal Science	0	86	88	0	87	63	0	88	66
Equine Science	0	160	122	0	124	153	0	136	121
Forestry	0	0	0	0	0	0	0	0	0
Horticulture	0	253	189	0	237	204	0	249	225
Natural Resources	51	176	259	25	171	224	22	157	292
Sustainable Agriculture	36	95	114	0	61	108	57	68	98
Viticulture	40	202	239	31	172	238	55	162	255
Wine Studies	57	301	279	0	368	319	0	330	347
<b>ALL Disciplines</b>	<b>200</b>	<b>1801</b>	<b>1825</b>	<b>96</b>	<b>1713</b>	<b>1834</b>	<b>179</b>	<b>1797</b>	<b>1973</b>

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## 5.2a Enrollment Efficiency

The AG/NR department evaluates the relevancy of each course in relation to scheduling. Based upon 2013-2014 combined totals for ALL locations in the district, the Ag/NR Department averaged 81.7% of seats filled (Fall 2013 – 81.1%, Spring 2014 – 82.3%). To maximize enrollment efficiency, courses are now offered on a rotation plan. Additionally, the AG/NR department increases their advertising and outreach efforts for low class counts.

Programs with an enrollment efficiency over 100%, based on 2013-2014 data were: Animal Science (F2013 - 100%) and Wine Studies (S2014 - 103.6%). The past year, the Ag/NR has been able to add more class offerings than previous years. This has led to more students enrolled in Ag/NR courses with a 10% increase in 13/14. However, this has meant that the Ag/NR enrollment efficiency has suffered.

The Ag/NR department is working to offer more classes as hybrid and online. Courses in Agribusiness, Natural Resources, and Wine Studies have been approved to be offered as hybrid or online.

## Santa Rosa Junior College - Program Unit Review

### Agriculture - FY 2013-14 (plus current FY Summer and Fall)

**5.2a Enrollment Efficiency** The percentage of seats filled in each Discipline at first census based on class limit (not room size).

#### Santa Rosa Campus

Discipline	X2011	F2011	S2012	X2012	F2012	S2013	X2013	F2013	S2014
Agriculture (AG)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Agriculture (AGRI)	0.0%	95.2%	120.4%	0.0%	103.6%	116.3%	0.0%	110.3%	99.0%
Agriculture Business	0.0%	95.5%	98.1%	0.0%	86.6%	94.6%	0.0%	72.3%	69.8%
Agriculture Mechanics	0.0%	58.3%	96.0%	0.0%	81.7%	88.0%	0.0%	88.0%	88.0%
Animal Health	0.0%	105.7%	97.1%	0.0%	102.3%	87.2%	0.0%	90.1%	129.1%
Animal Science	0.0%	97.7%	0.0%	0.0%	107.5%	0.0%	0.0%	120.8%	0.0%
Equine Science	0.0%	93.6%	0.0%	0.0%	83.3%	0.0%	0.0%	100.0%	0.0%
Forestry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Horticulture	0.0%	93.0%	71.3%	0.0%	87.7%	83.5%	0.0%	80.6%	67.2%
Natural Resources	83.3%	104.3%	107.3%	79.2%	92.2%	87.5%	70.8%	69.0%	69.7%
Sustainable Agriculture	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Viticulture	0.0%	88.8%	75.6%	0.0%	85.6%	87.2%	0.0%	77.6%	76.0%
Wine Studies	0.0%	91.1%	116.7%	0.0%	102.9%	121.4%	0.0%	82.9%	110.0%
<b>ALL Disciplines</b>	<b>83.3%</b>	<b>93.5%</b>	<b>93.0%</b>	<b>79.2%</b>	<b>93.4%</b>	<b>92.9%</b>	<b>70.8%</b>	<b>84.0%</b>	<b>81.6%</b>



### Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2011	F2011	S2012	X2012	F2012	S2013	X2013	F2013	S2014
Agriculture (AG)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Agriculture (AGRI)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Agriculture Business	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Agriculture Mechanics	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Animal Health	0.0%	66.2%	98.5%	0.0%	96.2%	92.9%	0.0%	78.2%	85.3%
Animal Science	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Equine Science	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Forestry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Horticulture	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Natural Resources	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	70.0%
Sustainable Agriculture	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Viticulture	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wine Studies	0.0%	93.3%	84.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>ALL Disciplines</b>	<b>0.0%</b>	<b>71.0%</b>	<b>96.8%</b>	<b>0.0%</b>	<b>96.2%</b>	<b>92.9%</b>	<b>0.0%</b>	<b>78.2%</b>	<b>83.0%</b>

### Other Locations (Includes the PSTC, Windsor, and other locations)

Discipline	X2011	F2011	S2012	X2012	F2012	S2013	X2013	F2013	S2014
Agriculture (AG)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Agriculture (AGRI)	0.0%	10.0%	154.2%	0.0%	16.7%	75.9%	0.0%	3.3%	63.0%
Agriculture Business	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Agriculture Mechanics	0.0%	113.3%	0.0%	0.0%	0.0%	0.0%	0.0%	110.0%	0.0%
Animal Health	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Animal Science	0.0%	0.0%	86.3%	0.0%	91.7%	96.2%	0.0%	92.2%	91.7%
Equine Science	0.0%	76.7%	85.4%	0.0%	83.3%	91.7%	0.0%	82.8%	84.0%
Forestry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Horticulture	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Natural Resources	0.0%	60.6%	84.3%	0.0%	74.5%	72.4%	0.0%	56.4%	65.6%
Sustainable Agriculture	66.7%	105.6%	93.0%	0.0%	127.1%	107.7%	114.0%	94.4%	88.4%
Viticulture	42.1%	88.5%	87.4%	88.6%	87.0%	83.8%	73.3%	73.8%	83.6%
Wine Studies	76.9%	60.0%	92.7%	0.0%	104.9%	118.9%	0.0%	82.5%	91.6%
<b>ALL Disciplines</b>	<b>53.2%</b>	<b>76.0%</b>	<b>89.5%</b>	<b>47.7%</b>	<b>88.3%</b>	<b>90.8%</b>	<b>72.3%</b>	<b>75.7%</b>	<b>83.3%</b>

### ALL Locations (Combined totals from ALL locations in the District)

Discipline	X2011	F2011	S2012	X2012	F2012	S2013	X2013	F2013	S2014
Agriculture (AG)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Agriculture (AGRI)	0.0%	76.1%	131.5%	0.0%	72.9%	95.1%	0.0%	80.6%	86.2%
Agriculture Business	0.0%	95.5%	98.1%	0.0%	86.6%	94.6%	0.0%	72.3%	69.8%
Agriculture Mechanics	0.0%	69.3%	96.0%	0.0%	81.7%	88.0%	0.0%	96.3%	88.0%
Animal Health	0.0%	87.2%	98.0%	0.0%	100.7%	90.4%	0.0%	87.6%	96.7%
Animal Science	0.0%	97.7%	86.3%	0.0%	98.9%	96.2%	0.0%	100.0%	91.7%
Equine Science	0.0%	83.5%	85.4%	0.0%	83.3%	91.7%	0.0%	86.1%	84.0%
Forestry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Horticulture	0.0%	93.0%	71.3%	0.0%	87.7%	83.5%	0.0%	80.6%	67.2%
Natural Resources	83.3%	73.9%	92.3%	79.2%	82.5%	76.4%	70.8%	61.7%	69.1%
Sustainable Agriculture	66.7%	105.6%	93.0%	0.0%	127.1%	107.7%	114.0%	94.4%	88.4%
Viticulture	42.1%	88.6%	83.7%	88.6%	86.2%	85.1%	73.3%	75.7%	81.0%
Wine Studies	76.9%	88.4%	106.1%	0.0%	103.8%	120.0%	0.0%	82.8%	103.6%
<b>ALL Disciplines</b>	<b>57.9%</b>	<b>86.9%</b>	<b>91.9%</b>	<b>56.2%</b>	<b>91.9%</b>	<b>91.9%</b>	<b>72.1%</b>	<b>81.1%</b>	<b>82.3%</b>

## 5.2b Average Class Size

Class sizes for most of our courses are dictated by laboratory conditions, such as equipment availability, safety issues, etc. Based upon 2013-2014 combined totals for ALL locations in the district, the AG/NR classes average 24 students per class. If class sizes were to increase any further, this would come at a high cost of liability. A smaller class size provides the best hands on learning environment for students.

## 5.3 Instructional Productivity

2013-2014 FTES was 356.7, a 5.75% increase from 2012-2013. Ag/NR FTES represents 2.08% of the district total.

Based upon 2012-2013 data, combined totals for ALL locations in the district, the Ag/NR Department's FTES to FTEF ratio is 15.08. Each discipline is as follows:

- Agriculture: 25.4
- Agribusiness: 11.935
- Agriculture Mechanics: 14.875
- Animal Health (Veterinary Technician): 18.345
- Animal Science: 14.515
- Equine Science: 10.61
- Environmental Horticulture: 11.265
- Natural Resources: 12.8
- Sustainable Agriculture: 12.135
- Viticulture: 19.31
- Wine Studies: 14.76

Disciplines with high productivity ratio is reflective of the currency and value of the course, as well as having a full time program coordinator to assist in marketing and development of the program.

Disciplines that fall below district standards for instructional productivity reflect safety considerations of the students and the lack of full time program coordinator to effectively develop and market programs.

## 5.4 Curriculum Currency

There has been a major emphasis in the department for curriculum currency. Faculty have been working closely with statewide advisory groups monitoring Transfer Model Curriculum (TMC) and C-IDs (Course Identifications). Additionally, input has been obtained from the local program Advisory Committees and Ag/NR Department to ensure the currency and relevancy of our course offerings in the Ag/NR Department. The Agriculture department is nearly 100% up-to-date on curriculum currency. The outdated courses are the Internship and Work experience courses. The Ag Department will work with the Work Experience office to get the courses current.

2015-2016 Active and Current Courses by Department and Discipline				
Department	Discipline	Active Courses	Courses <u>Not</u> Current	Course Count Minus Non-Current Courses
Agriculture & Natural Resources				
	Agriculture (AGRI)	9	-2	7
	Agriculture Business (AGBUS)	9	0	9
	Agriculture Mechanics (AGMEC)	3	0	3

	Animal Health (ANHLT)	11	0	11
	Animal Science (ANSCI)	12	0	12
	Equine Science (EQSCI)	13	0	13
	Horticulture (HORT)	36	0	36
	Natural Resources (NRM)	26	-2	24
	Sustainable Agriculture (SUSAG)	13	0	13
	Viticulture (VIT)	17	0	17
	Wine Studies (WINE)	31	0	31
	<b>Agriculture &amp; Natural Resources Total</b>	<b>180</b>	<b>-4</b>	<b>176</b>

Course Currency Report of Last Full Review Date  
Report Generated 5/6/2015

#	Discipline#	Last Review Date	Responsibility
2	AGBUS 2	4/27/2015	69
3	AGBUS 51	12/7/2009	69
4	AGBUS 52	12/7/2009	69
5	AGBUS 56	3/31/2014	69
6	AGBUS 61	3/9/2015	69
7	AGBUS 62	2/1/2010	69
8	AGBUS 7	3/31/2014	69
9	AGBUS 71	4/23/2013	69
1	AGMEC 163	3/31/2014	69
2	AGMEC 60	3/22/2004	69
1	AGRI 10	3/9/2015	69
2	AGRI 20	4/13/2015	69
3	AGRI 50	3/9/2015	69
4	AGRI 56	4/9/2012	69
5	AGRI 60	4/23/2013	69
6	AGRI 70	4/14/2014	69
7	AGRI 98	3/9/2015	69
1	ANHLT 109	12/9/2013	69
2	ANHLT 120	10/28/2013	69
3	ANHLT 121	11/25/2013	69
4	ANHLT 123	5/2/2011	69
5	ANHLT 126	3/23/2015	69
6	ANHLT 141	5/9/2011	69
7	ANHLT 142	5/9/2011	69
8	ANHLT 151	5/9/2011	69
9	ANHLT 161	5/9/2011	69
10	ANHLT 50	3/23/2015	69
11	ANHLT 52	5/9/2011	69

1	ANSCI 153	12/9/2013	69
2	ANSCI 171	10/4/2010	69
3	ANSCI 2	12/6/2010	69
4	ANSCI 20	3/9/2015	69
5	ANSCI 26	3/9/2015	69
6	ANSCI 27	3/9/2015	69
7	ANSCI 28	3/9/2015	69
8	ANSCI 29	3/9/2015	69
9	ANSCI 50	9/17/2012	69
10	ANSCI 51	3/29/2010	69
11	ANSCI 61	3/9/2015	69
12	ANSCI 91	3/9/2015	69
1	EQSCI 101	10/13/2014	69
2	EQSCI 102A	11/17/2014	69
3	EQSCI 120	3/28/2011	69
4	EQSCI 121	3/9/2015	69
5	EQSCI 122	4/4/2011	69
6	EQSCI 151	4/25/2011	69
7	EQSCI 170	3/28/2011	69
8	EQSCI 25	4/13/2015	69
9	EQSCI 51	3/9/2015	69
10	EQSCI 52	5/2/2011	69
11	EQSCI 53	4/18/2011	69
12	EQSCI 60	9/20/2010	69
13	EQSCI 80	11/8/2011	69
1	HORT 110	3/28/2011	69
2	HORT 111	3/28/2011	69
3	HORT 112	3/28/2011	69
4	HORT 115	9/19/2011	69
5	HORT 115.1	1/24/2011	69
6	HORT 119	9/12/2011	69
7	HORT 12	1/24/2011	69
8	HORT 127	3/23/2015	69
9	HORT 133	3/23/2015	69
10	HORT 151	9/26/2011	69
11	HORT 153	1/31/2011	69
12	HORT 171	4/2/2012	69
13	HORT 180	12/6/2010	69
14	HORT 181	3/9/2015	69
15	HORT 189	10/24/2011	69
16	HORT 195	3/23/2015	69
20	HORT 50.1	9/12/2011	69
21	HORT 50.2	9/12/2011	69
22	HORT 56	1/31/2011	69
23	HORT 65	9/12/2011	69

24	HORT 66	9/12/2011	69
25	HORT 70	9/26/2011	69
26	HORT 71	4/17/2012	69
27	HORT 72	4/17/2012	69
28	HORT 8	3/9/2015	69
29	HORT 80	10/10/2011	69
30	HORT 81	1/31/2011	69
31	HORT 82	3/7/2011	69
32	HORT 91	1/31/2011	69
33	HORT 92.1	9/26/2011	69
34	HORT 92.2	10/10/2011	69
35	HORT 93	1/31/2011	69
36	HORT 94	1/24/2011	69
1	NRM 103	3/9/2015	69
2	NRM 111	3/1/2010	69
3	NRM 12	4/13/2015	69
4	NRM 131	3/22/2010	69
5	NRM 132	3/31/2014	69
6	NRM 141	9/27/2010	69
7	NRM 142	3/29/2010	69
8	NRM 51	2/1/2010	69
9	NRM 56	4/27/2015	69
10	NRM 60	3/31/2014	69
11	NRM 63	3/9/2015	69
12	NRM 66	11/14/2011	69
13	NRM 67	3/12/2012	69
14	NRM 70	2/23/2012	69
15	NRM 72	3/31/2014	69
16	NRM 73	3/23/2015	69
17	NRM 80	3/9/2015	69
18	NRM 84	3/9/2015	69
19	NRM 85	2/14/2011	69
20	NRM 86	3/25/2002	69
21	NRM 87	3/28/2011	69
22	NRM 88	3/9/2015	69
23	NRM 91	3/9/2015	69
24	NRM 98	3/9/2015	69
25	NRM 99	5/11/2009	63
26	NRM 99I	5/11/2009	63
1	SUSAG 103	3/9/2015	69
2	SUSAG 109	5/7/2013	69
3	SUSAG 116	3/9/2015	69
4	SUSAG 117	3/9/2015	69
5	SUSAG 118	3/9/2015	69
6	SUSAG 119	3/9/2015	69

7	SUSAG 120	3/31/2014	69
8	SUSAG 153	1/27/2014	69
9	SUSAG 160	4/23/2013	69
10	SUSAG 163	12/9/2013	69
11	SUSAG 50	5/9/2013	69
12	SUSAG 64	4/16/2015	69
13	SUSAG 65	4/13/2015	69
1	VIT 1	12/8/2014	69
2	VIT 113	3/9/2015	69
3	VIT 114	3/23/2015	69
4	VIT 120	12/8/2014	69
5	VIT 121	11/17/2014	69
6	VIT 122	11/17/2014	69
7	VIT 123	11/17/2014	69
8	VIT 130	12/8/2014	69
9	VIT 131	12/8/2014	69
10	VIT 132	3/9/2015	69
11	VIT 133	10/25/2010	69
12	VIT 51	11/17/2014	69
13	VIT 52	11/17/2014	69
14	VIT 53	11/17/2014	69
15	VIT 54	11/2/2009	69
16	VIT 55	11/17/2014	69
17	VIT 60	11/17/2014	69
1	WINE 1	10/13/2014	69
2	WINE 101	10/13/2014	69
3	WINE 102	10/13/2014	69
4	WINE 103	5/2/2011	69
5	WINE 104	2/1/2010	69
6	WINE 105	5/2/2011	69
7	WINE 110	10/13/2014	69
8	WINE 111	10/13/2014	69
9	WINE 112	10/13/2014	69
10	WINE 113	10/13/2014	69
11	WINE 114	10/13/2014	69
12	WINE 115	10/27/2014	69
13	WINE 116	10/13/2014	69
14	WINE 117	10/13/2014	69
15	WINE 118	10/13/2014	69
16	WINE 119	10/13/2014	69
17	WINE 121	10/13/2014	69
18	WINE 122	10/13/2014	69
19	WINE 124	10/13/2014	69
20	WINE 125	10/13/2014	69
21	WINE 130	10/13/2014	69

22	WINE 131	10/27/2014	69
23	WINE 150	10/13/2014	69
24	WINE 3	10/13/2014	69
25	WINE 42.1	10/27/2014	69
26	WINE 42.2	10/13/2014	69
27	WINE 55A	5/9/2011	69
28	WINE 55B	5/2/2011	69
29	WINE 56	2/1/2010	69
30	WINE 62	10/13/2014	69
31	WINE 70	10/13/2014	69

## 5.5 Successful Program Completion

### **Associate of Science degrees**

Program coordinators and instructors encourage individual students to continue with their classes for program completion. In 2013-2014, Associate of Science degrees were awarded for the following programs:

- Agribusiness: 0
- Agriculture Science, Education and Communication: 0
- Animal Science: 2
- Equine Science: 4
- Environmental Conservation ~ Natural Resource Management: 3
- Environmental Conservation ~ Parks & Recreation Management: 3
- Environmental Conservation ~ Watershed Management: 0
- Environmental Horticulture ~ Garden Design: 1
- Environmental Horticulture ~ Garden Design with CAD skills: 1
- Environmental Horticulture ~ Landscape Management: 2
- Environmental Horticulture ~ Nursery Management: 0
- Sustainable Agriculture: 2
- Viticulture: 9
- Wine Studies ~ Enology: 5
- Wine Studies ~ Wines Business and Marketing: 2
- Wine Studies ~ Wine Evaluation and Service: 2

In 2012-2013, 36 Associates of Science degrees have been awarded in the SRJC Ag/NR Department. While the number of associate degrees for Ag/NR majors is low, these numbers are not surprising or in any way discouraging. Completion of an AS degree in an Ag/NR major is not necessary or particularly useful for students who are Ag/NR majors intending to transfer to earn a BS in Ag/NR; these students accurately see very little benefit in completing an Ag/NR major with an AA degree. These students are so focused on transferring that they do not always complete all lower division courses here, but fit in as much as they can before transfer. Thus they may not complete all requirements for an AS degree.

### **Certificates**

In 2012-2013, certificates were awarded in the following programs:

- Agribusiness: 0

- Animal Science: (Certificate discontinued in 2011)
- Equine Science: 1
- Environmental Conservation ~ Natural Resource Management: 1
- Environmental Conservation ~ Parks & Recreation Management: 2
- Environmental Conservation ~ Watershed Management: 2
- Environmental Horticulture ~ Garden Design: 2
- Environmental Horticulture ~ Garden Design with CAD Skills: 3
- Environmental Horticulture ~ Landscape Maintenance Skills: 0
- Environmental Horticulture ~ Landscape Management: 1
- Environmental Horticulture ~ Landscape Technician: 1
- Environmental Horticulture ~ Nursery Management: 1
- Environmental Horticulture ~ Nursery Technician: 1
- Natural Resource Management: 3
- Parks and Recreation Management: 0
- Sustainable Agriculture: 3
- Veterinary Technician: 9
- Viticulture: 3
- Watershed Management: 1
- Wine Studies ~ Enology: 2
- Wine Studies ~ Wine Business and Marketing: 2
- Wine Studies ~ Wine Evaluation and Service: 0
- Wine Studies ~ Wine and Vines: 0

The department is working with particular programs that have industry certification or licensure to further strengthen successful program completion. However, as with all career and technical education programs, it should be pointed out that many students do not have a goal of completing a certificate; instead, their focus may be on taking one or two selected courses for skill building, job enhancement, or licensure for entry into the workforce. Unfortunately, student success rates on licensure exams/certifications is not readily available from industry. Success of students is based solely on anecdotal information. The district would highly benefit in helping to acquire this information by having a "leaver study".

As a department we try to make sure that we minimize any barriers to successful completion of our majors courses. We coordinate scheduling between programs and ensure that courses are offered on a rotational basis frequently enough for students to complete their programs of study within a 2 year time period (when not under schedule reduction).

## 5.6 Student Success

### **Students receiving a grade of A, B, C or CR**

Based upon 2013-2014 totals for ALL locations in the district, the Ag/NR Department has the following percentage of students receiving a grade of A, B, C or CR in each discipline as follows:

- Agriculture: 69.6%
- Agribusiness: 63.25%
- Agriculture Mechanics: 70.60%
- Veterinary Technician/Animal Health: 62.60%
- Animal Science: 81.60%



- Equine Science: 78.30%
- Environmental Horticulture: 69.20%
- Natural Resources: 75.35%
- Sustainable Agriculture: 82.35%
- Viticulture: 77.90%
- Wine Studies: 76.70%

On average across all disciplines, based upon 2013-2014 combined totals for ALL locations in the district, the Ag/NR Department has the following percentage of students receiving a grade of A, B, C or CR, 72.55%

### **Grade Point Average**

Programs coordinators and instructors encourage individual students to strive for excellence. Based upon 2013-2014 combined totals for ALL locations in the district, the Ag/NR Department has the following average GPA in each discipline as follows:

- Agriculture: 2.73
- Agribusiness: 2.46
- Agriculture Mechanics: 2.49
- Veterinary Technician/Animal Health: 2.08
- Animal Science: 2.65
- Equine Science: 2.77
- Environmental Horticulture: 2.38
- Natural Resources: 2.90
- Sustainable Agriculture: 2.93
- Viticulture: 2.65
- Wine Studies: 2.86

The average GPA for all disciplines ranges from 2.60.

## **5.7 Student Access**

The Ag/NR Department serves a broad range of students and has demonstrated experience in understanding and being sensitive to the diverse academic, socioeconomic, cultural, disability and ethnic backgrounds of community college students. Depending on the program enrollment of students in each discipline broken down by ethnicity and gender reflects that in the Ag/NR Department, approximately 75% of students are white, 12% Hispanic, and 13% either black, Asian, Native American, pacific islander, Filipino or other non-white ethnicity.

Review of the number of students broken down by gender reveals trends particular to programs. Animal based programs are largely female based (83-90%), while mechanic based classes are predominately male (67%). Agriculture Business, Sustainable Agriculture, and Wine Studies tend to be equally enrolled by both males and females. Review of the number of students broken down by age reveals that the Ag/NR department serves a broad range of age demographics, however the majority of student fall between 19-30. Horticulture, Viticulture, and Wine Studies, however also serve a substantial amount of students aged 46-60.

## **5.8 Curriculum Offered Within Reasonable Time Frame**

All courses in the Ag/NR Department certificates and majors are offered on a regular or rotational basis so that students can ideally complete their programs of study within a two year period. Working with their advisory committees, program coordinators developed program course rotations that are reviewed annually. Course rotation sequences are maintained departmentally and shared with counseling and CTE coordinators.

## 5.9a Curriculum Responsiveness

In Spring 2010, the department developed a comprehensive master plan to determine how best to prepare students to continue their Ag/NR education or to enter the job market. This included conducting a scan of industry trends, review of labor market data, and an analysis of a number of other indicators. Advisory committee input was gathered and a community focus group was held to provide further feedback. The process concluded in spring 2011 with the development of work plans for each discipline, outlining key activities and timelines for implementation. Recommendations for revising curriculum is incorporated in the work plans.

The Ag/NR Department has advisory committees with membership numbers as follows for each program:

- Agribusiness: 9
- Animal Health: 12
- Animal Science/Equine Science: 26
- Environmental Horticulture: 9
- Natural Resources: 18
- Sustainable Agriculture: 16
- Viticulture: 21
- Wine Studies: 11

Members represent a diversity of professional opportunities within each of the respective disciplines.

Members that represent industry and also serve as adjunct faculty are as follows for each program:

- Agribusiness: 0
- Animal Health: 1
- Animal Science/Equine Science: 1
- Environmental Horticulture: 1
- Natural Resources: 3
- Sustainable Agriculture: 1
- Viticulture: 0
- Wine Studies: 1

The SRJC Agriculture/Natural Resources Department has continued with major curriculum work in each of its program areas to meet the California Community College Agriculture Core Course Model Programs. SRJC Agriculture & Natural Resources program coordinators and instructors meet annually with community college, CSU, and UC instructors in collaboration with current and new courses within their occupational curriculum. These courses follow a statewide articulation numbering system with CC, CSU, and UC agriculture courses statewide. Some of these courses also satisfy General Education requirements and UC/CSU numbered status. Agribusiness, Natural

Resources, Animal Science, Environmental Horticulture, Viticulture, Welding, Equine Science and Park Management courses went through major updates and revision, with the addition of Student Learning Outcomes (SLOs). All Agriculture and Natural Resources Programs have a transfer track to CSU and UC agriculture majors. Additionally, the certificate programs during the major curriculum work were enhanced to meet the local employer and industry needs in the community. Program advisory committees were utilized for the review and approval process. During the California Agricultural Teacher Association quarterly meetings, Tech Prep and/or career pathways were discussed with local high schools and the Agriculture and Natural Resources Department.

### 5.9b Alignment with High Schools (Tech-Prep ONLY)

During the California Agricultural Teacher Association (CATA) quarterly meetings, Tech Prep and/or career pathways are discussed with local high schools and the SRJC Agriculture and Natural Resources Department. Additionally, the faculty are in the process of discussing articulation opportunities with Eve Nighswonger. This entails identifying Ag courses to put on the credit by exam list. Faculty have been concerned that the typical Ag transfer institutions may not accept credits granted to students through the credit by exam process so this needs to be further explored.

### 5.10 Alignment with Transfer Institutions (Transfer Majors ONLY)

The SRJC Agriculture/Natural Resources Department has continued with major curriculum work in each of its program areas to meet the California Community College Agriculture Core Course Model Programs. SRJC Agriculture & Natural Resources program coordinators and instructors meet annually with community college, CSU, and UC instructors in collaboration with current and new courses within their occupational curriculum. These courses follow a statewide articulation numbering system with CC, CSU, and UC agriculture courses statewide. Some of these courses also satisfy General Education requirements and UC/CSU numbered status. All Agriculture and Natural Resources Programs have a transfer track to CSU and UC agriculture majors.

### 5.11a Labor Market Demand (Occupational Programs ONLY)

The value of agriculture-related degrees cannot be underestimated. No other industry can feed the world's population that is growing at a rate where we cannot produce enough food for the number of people. According to research (Feedstuffs, October 26, 2009) our food production must double by 2050. Currently 21 million American workers produce, process and sell the nation's food and fiber, and the average age of today's farmer is 55.3 years old. Due to imminent retirements and

the difference between the current rate of global agriculture productivity and the pace required to meet future needs of our growing world population, graduates in agriculture degree programs are needed. According to the latest data from AgCareers.com, 81% of jobs in the Ag industry require education beyond high school and almost half require at least a bachelor's degree. According to the AgCareers.com/AgrowKnowledge Enrollment and Employment Outlook Report in 2008 there was a deficit of 9,317 graduates with agriculture degrees to fill open positions in the US. The USDA also estimates there are or will be 54,500 annual openings for individuals with baccalaureate or higher degrees in food, renewable energy and environmental specialties between 2010 and 2015. The USDA study projected only 53,500 qualified graduates will be available each year and stated that employers have expressed a preference for graduates from colleges of agriculture and natural resources that tend to have more relevant work experience.

Although the US unemployment rates remained high in 2012, AgCareers.com experienced a significant increase in jobs posted on their website. In 2012, AgCareers.com had almost 40,000 job openings posted in the United States (up 16% from the previous year). That is more than 3,300 agriculture-related job openings each month. Further demonstrating the need for educated agriculturalists, the November 2011 Monthly Labor Review projected particularly strong (double-digit) growth in certain agricultural careers such as agricultural inspectors, animal scientists, food scientists and technologists, natural sciences managers, pest control workers, soil and plant scientists, and veterinarians. December 2011, the Washington Post printed results of a Georgetown University study showing that recent college graduates with degrees in agriculture and natural resources were among those with the lowest unemployment rates in the nation at 7 percent, surpassed only by graduates with degrees in health (5.4 percent) and education (5.4 percent).

Agriculture positions are not only production-based, but encompass a broad range such as sales representatives, research scientists, quality assurance, marketing and engineers, just to name a few. The average starting salary for a graduate in the Ag industry is almost \$49,000 (according to the AgCareers.com/AgrowKnowledge Enrollment and Employment Outlook Report and the AgCareers.com Compensation Benchmark Review).

Agriculture is the top economic driver in California and generates over \$43 billion in revenue for the state. According to the California Department for Food and Agriculture, California agriculture is experiencing record growth and production with a 15 percent increase in the sales value of its products in 2011. The state's 81,500 farms and ranches received a record \$43.5 billion for their output last year, up from the \$38 billion reached during 2010. California remained the number one state in cash farm receipts with 11.6 percent of the US total. The state accounted for 15 percent of national receipts for crops and 7.4 percent of the US revenue for livestock and livestock products. California's agricultural abundance includes more than 400 commodities. The state produces nearly half of US-grown fruits, nuts and vegetables.

The California Community College Centers for Excellence recently completed an environmental scan of the agriculture value chain in California ([www.coeccc.net/Environmental\\_Scans/ag\\_scan\\_cv\\_11.pdf](http://www.coeccc.net/Environmental_Scans/ag_scan_cv_11.pdf)) and found that there

are currently 2.5 million individuals employed in more than 800 job titles within the agriculture value chain in the state. The average annual salary for agricultural value chain workers in California is \$50,000 (California careers as a whole average \$43,000). While the number of production jobs (currently 206,303) is expected to decrease in the next five years (due to the increasing efficiencies and mechanization), a net increase of 181,000 jobs is expected throughout the entire agricultural value chain, which includes support, research, technology, production, processing/packaging, marketing, and sales and distribution.

In a recent 2011 survey by the Economic & Workforce Development Initiative through the California Community Colleges, agriculture employers were asked to describe their organizations level of interest regarding educational and training programs that could be developed by community colleges for the agriculture value chain and workforce. The majority of responses indicated interest in on-site customized training for current employees and a certificate specific to occupations.

Following are highlights of industry trends related to the disciplines within the Ag/NR Department.

### **AGRICULTURE BUSINESS MANAGEMENT**

Agribusiness accounts for nearly one-fifth of the United States (U.S.) Gross National Product (GNP) and employs close to one-fourth of the labor force. This sector includes firms in the value chain system such processing, marketing, sales and distribution. In California, 53% of the total revenue in agriculture comes from the agribusiness industry (United States, Department of Agriculture, 2014). Agribusiness jobs account for 34 percent of the workforce in the value chain in California. Over the next five years, the Agribusiness industry is expected to grow by at least 18 percent (distribution-14% and processing-4.4%) in Sonoma County. Additionally, the average salary for Agribusiness industry employees is Sonoma County is approximately \$51,000 per annum (Chancellors Office, California Community Colleges, 2014).

Although there has significant growth in the Agriculture Business sectors, the number of community college programs that train students in this major are not keeping up with the trend. In California, there are 591 agriculture programs at California Community Colleges, of which, only 37 (6.5%) offer certificates or degrees in agriculture business. As such, there is real need to increase enrollment in Agribusiness to meet industry needs. Graduates from Agribusiness programs are usually employed as loan officers, banker, lobbyists, sales/marketing managers, farm managers, distribution managers, personnel specialists, labor contractors and public relations specialists.

Most of the students enrolled in agribusiness courses intend to transfer to one of the following institutions: California State Polytechnic University, San Luis Obispo, California State University, Fresno, California State University, Chico, California State University Stanislaus, California State University, Sonoma and University of California, Davis. There are active articulation agreements between our program and the aforementioned institutions. In developing the new Associate Degree for Transfer (AST) in agribusiness, courses were designed and sequenced to ensure that students who complete the requirements for the AST would also meet the prerequisites to transfer as juniors to California State Universities. Although a larger

number of students enrolled in agribusiness transfer to four-year institutions, there is a sizeable number of students that complete our certificate or degree programs to return to the workforce. In order to meet the needs of both pathways of students (career and transfer), courses have been designed to provide a wide range of skills that are required for both industry and four-year institutions. The structure and content of agribusiness courses will be continually updated to meet both industry needs and transfer requirements for four-year institutions.

### **ANIMAL SCIENCE**

World food demand for food of animal origin will double in the next 25 years in order to feed an expected population of 9.1 billion. Trends in the animal science industry show an increase in vertical integration with a decrease in the number of producers, but larger sized operations; increased specialization to improve efficiency; increased geographic concentration. The above needs will need to be achieved while minimizing the costs to animals, environment and humans. Current SRJC courses, certificates, and majors have been refined to meet these trends.

Employment trends show an average increase in the need of Animal Science graduates by 12.9%. Currently, 6.4% of all animal scientists have a professional degree, 23.5% have a doctoral degree, 21% have a master's degree, and 35% have a bachelor's degree. Only 5.3% have an Associate degree. Due to these demographics, the majority of SRJC's animal science offerings are geared towards the transfer student. In fall 2011, the Animal Science Coordinator, with advisory committee input, determined that based on employment options, the Animal Science certificate was no longer necessary, and subsequently approved for discontinuance.

Animal Science associates degree students served Santa Rosa Junior College are helping to produce the increased value of animal agriculture production in California; between 2000 and 2010 there was a boost of more than \$3.2 billion in total economic output from animal agriculture for the state. This growth increased household incomes by more than 17,000 jobs, according to a report funded by the United Soybean Board. At the national level, the study found that the rise in value of US animal agriculture production in the last decade resulted in more than \$22 billion in total economic output. This produced a nearly \$4 billion increase in household incomes and 128,700 jobs.

In 2010, the total economic impact of animal agriculture in California was more than \$19 billion, compared to \$289 billion nationally. The effect on household earnings was \$3.6 billion in the state and \$51 billion nationally. Animal agriculture contributed 101,178 California jobs and more than 1.8 million jobs to the US economy.

The average animal scientists has a starting salary of \$31,540. The average salary earned is \$53,230.

California community colleges that offer Animal Science programs include Modesto College, Merced College, West Hills College, College of the Sequoias, Reedley College, Shasta College, and Bakersfield College. There are no outside requirements for licensing/accrediting of Animal Science programs for SRJC or any other community college institutions. In the coming year however, due to the growing concern for animal welfare it may necessary to investigate the development of an Animal Care and Use Committee for Shone Farm.

There has been minimal change in outside funding. Partnerships have been developed with community members for leasing of breeding animals, in order to preserve the limited livestock budget.

## **ENVIRONMENTAL HORTICULTURE**

Increased interest in the quality of the environment, conservation, and restoration projects has stimulating growth in the horticulture industry over the last several years. California's environmental horticulture industry leads the nation with 21.9% of total nursery production and 8.6% of lawn and garden retail sales. California represents over a quarter of U.S. wholesale nursery production and retail sales, creating a total of 192,065 California jobs. 74,940 jobs come from production, 76,225 jobs from lawn and garden retailing, and 40,900 result from indirect and induced effects. The total payroll exceeds \$5.58 billion, with \$2.52 billion from floral and nursery production and over \$3.05 billion from lawn and garden retailing. (Economic Impact Report, 2008-2009 next census: 2015-2016). Combined, nursery and floriculture are California's #4 agricultural commodity, producing 8.0% of the state's total agricultural output. Nursery products, flowers and foliage are produced in 55 of California's 58 counties. California leads the country in potted flowering plants, and is a dominate state in cut flower production as well as the production of bedding and garden plants. (California Agricultural Statistic Report 2013).

Nevertheless, due to the economic downturn, particularly in the construction industry, the current job market is difficult. EDD labor market information data projects a 9.6% increase in Landscaping and Groundskeeper Supervisor positions for 2008-2018 in California and a 9% increase in Sonoma County. For Landscape Groundskeepers and Workers, the projection is a 14% increase in California and a 14% increase in Sonoma County.

The employment outlook for the category of Farmworkers, Laborers, Crop and Nursery Workers in California is flat with a -.1% change. In Sonoma County, a 4.49% increase is projected. The Environmental Horticulture Advisory Committee confirmed the weakening job market in the nursery industry and the value and need for the two nursery certificates will be assessed in the coming year.

Longer term, as the economic recovery continues, the landscape field should strengthen. Private and commercial property values are enhanced by professionally designed landscapes, and the services of large and small landscape firms should return to be in high demand. In addition, a significant number of independent, entrepreneurial landscape/garden designers offer services throughout the county.

Graduates who possess landscape management skills are qualified to advance into supervisory and management positions within landscape contracting firms, design or landscape construction companies, municipal, state, county, and federal agencies, entrepreneurial landscape maintenance enterprises, and other occupations that require the application of plant knowledge, drafting/design, irrigation design, and landscape construction skills.

There are multiple areas that offer interesting employment options and starting pay to students who are prepared by SRJC's Environmental Horticulture program, including:

- Wholesale nursery propagator (\$15-40/hr.)
- Wholesale nursery grower (\$10-25/hr.)
- Field Superintendent Manager (\$30-45/hr.)
- Sales Manager (\$20-25/hr.)
- Marketing Manager (\$20-30/hr.)
- Floral Designer (\$35-50/hr.)
- Landscape Contractor (\$50-80/hr.)
- Landscape Designer (\$55-95/hr.)
- Irrigation Designer (\$75/hr.)
- Private Horticulture Consultant (\$50/hr.)
- Certified tree worker (\$25-40/hr.)
- Park Superintendent (\$35-50/hr.)
- Project Supervisor (\$20-30/hr.)
- Landscape Estimator (\$50/hr.)
- Foreperson (\$10-22/hr.)
- Crew Leader (\$10-22/hr.)
- Landscape Gardener (\$10-15/hr.)
- Salesperson (\$15-20/hr.)
- Integrated Pest Management specialist (\$50-70/hr.)
- Salesperson retail florist (\$20-35/hr.)
- Instructor (\$50-80/hr.)
- Landscape Design Assistant (\$15-23/hr.)

The variation of salaries is dependent upon the level of education, type of employment, specific job tasks and skills. Experienced workers typically earn \$10-22 /hr. Management and supervisory positions have the greatest earning at \$3,500 to \$5,500 per month. Owners/operators of many landscape maintenance businesses earn between \$4,500-8,500 per month. Many residential landscape installation contractors earn between \$150,000 -500,000 per year, gross income.

Environmental Horticulture programs can be found at the following community colleges: Cabrillo College, Foothill College, Santa Barbara City College, Reedley College, Modesto Junior College, Butte Community College, College of the Sequoias and Antelope Valley Community College.

Numerous SRJC Environmental Horticulture classes articulate with the CSU (Cal Poly and Fresno) and UC system (UC Davis).

### **EQUINE SCIENCE**

Current estimates place 6.9 million horses in the United States involving 7.1 million Americans in diverse, sophisticated and high tech positions that annually employ 1.4 million full-time employees in all regions of the country. These people serve the industry, providing over \$2.5 billion in goods and services annually. This relates to a total impact of \$112.1 billion on the US Gross domestic product. In Sonoma County, the value of agricultural production and household horse-riding activities amount to 468 million dollars, almost one quarter of the value of Sonoma County farming. Horses are Sonoma County's #2 agricultural industry. Current production and market indicators suggest that the equine science industry will continue to experience growth. Areas for growth in the industry include breeding, training, and maintaining horses, operating tracks, show and recreational facilities as well as numerous ancillary activities. These include feed, tack, equipment, and real estate sales, legal services, art, photography and literature. Students who have earned a degree at Santa Rosa Junior College with a major in Equine Science are more than qualified for a wide variety of diverse careers in the equine industry.



California community colleges that offers Equine Science courses include Modesto College, Sierra College, College of the Sequoias, and Shasta College. These institutions, however, do not offer full certificates or majors in Equine Science, like SRJC. The only other California community college which offers a full degree in equine science is Feather River College in Quincy. This program offers a markedly different program than SRJC however, as it is geared towards competitive rodeo and backcountry horsemen. SRJC's program, in contrast, is a broad technical study of all phases of equine business and management practices, coupled with general studies to produce graduates that are well rounded individuals capable of entering all phases of the equine industry. Another thing that sets SRJC's Equine Science program apart from all other colleges in the nation, is our therapeutic riding program. Recognized as one of the most progressive forms of therapy, therapeutic riding offers students with disabilities the ability to control a horse as well as one's own body. The college offers courses for training in therapeutic riding, as well as courses for riders that work to increase balance, muscle control, strength, concentration, patience, responsibilities, and teamwork. Only one other community college in the nation has a therapeutic riding program.

With the exception of the therapeutic riding program being certified by the North American Handicapped Riding Association, there are no outside requirements for licensing/accrediting Equine Science at SRJC or these other institutions.

In 2010, CTEA funding was used to acquire a hotwalker, with installation by Shone Farm. Additionally in 2011, the Equine Science program obtained \$21,000 in funding from the CalRecycle Tire Derived products program for shredded rubber and stall mats for use in the equine unit and beef unit.

## **NATURAL RESOURCE MANAGEMENT**

Natural Resource Management is a rapidly growing field, particularly in light of challenges to our environment like global warming, exponential population growth and potentially dangerous carbon emissions.

Environmental scientists work to find ways to meet and overcome those challenges, in order to maintain a livable environment for generations to come.

The jobs available to natural resource management graduates is diverse and in a wide range of settings. The U.S. Bureau of Labor Statistics lists some of the tasks handled by these professionals as: Monitoring watershed, finding ways to preserve water supplies, writing policies to preserve natural resources, consulting with companies to help them become more environmentally responsible, working with government entities to develop regulations and ensure they are followed. Scientists in this field often have backgrounds similar to those that work in physical or life science, but their focus is on environmental issues. Most that come into this field have a strong math and science background, and a minimum of a two-year degree in natural resource management to get into an entry level position. The U.S. Bureau of Labor Statistics predicts the field of natural resource management to grow at a much faster than average pace over the next few years.

Example of anticipated career changes for natural resource management include:

Forestry Technicians: Expected growth of 9% over 2008-18 as more land is set aside to protect natural resources or wildlife habitats. Also, more jobs may be created by recent Federal legislation designed to prevent destructive wildfires by thinning the forests and by setting controlled burns in dry regions susceptible to forest fires.

Parks and Recreation: Employment of recreation workers is projected to increase by 15 percent between 2008 and 2018. This growth is being driven by an increased interest in the “No Child Left Inside” program, which is fueling civic and social organizations and fitness and sports centers to increase their outdoor recreation activities.

Other Community Colleges offering Natural Resource Management programs in California include Truckee Meadows Community College, Reedley Community College, Shasta College, De Anza College, American River Community College, Butte Community College and Feather River Community College. Four year institutions in California that SRJC graduates transfer to in Natural Resource Management include UC Davis and Santa Cruz, and CSU Chico, Humboldt, Bakersfield, and Channel Islands. Numerous SRJC courses articulate with these four year institutions.

Licensing/accrediting agencies related to SRJC's Natural Resource Management program include the Seasonal Law Enforcement Park Ranger Academy – Windsor Training Center (recommended).

Partnerships or cooperative ventures existing with local employers include: Sonoma County Agricultural and Open Space District, Sonoma County Regional Parks, U.S. Army Corps of Engineers, North Bay Conservation Corps, National Park Service and Forests Unlimited.

### **SUSTAINABLE AGRICULTURE**

Now that organic food has a nationally recognized production standard and is overseen by the United States Department of Agriculture, organic food has become legitimized in America as sales steadily climb. The number of certified organic farms and processing facilities in the United States increased nearly 3 percent from the end of 2010 to the end of 2011, with California still leading the nation with the most organic operations, according to the U.S. Department of Agriculture. USDA database shows a total of 17,673 U.S. farms and processing facilities were certified to the standards of the National Organic Program as of the end of 2011. That's 478 more operators than the end of 2010. The current total is also a 240 percent increase since the program started tracking that information in 2002. The database shows California has 3,853 certified organic operations. That's compared to 2,714 organic farms in 2008, although that number comes from the USDA Census of Agriculture and includes farms that are certified and exempt. U.S. Deputy Secretary of Agriculture Kathleen Merrigan said USDA has been working to increase the number of certified organic operations in the nation by 20 percent by 2015. Starting from the 2009 baseline of 16,564 operations, she said the goal is to hit a total of 20,655 certified operations in another three years.

With such a rapidly growing market in Sustainable Agriculture, there are multiple areas that offer interesting employment options to students who are prepared in SRJC's Sustainable Agriculture program. Employment opportunities upon completion of the SRJC Sustainable Agriculture program may include:

- Farm owner
- Niche grower of specialty produce, flowers, herbs, fruits and nuts
- Farm or garden manager - field or office
- Farming / Gardening consultant - private or company employee
- Seasonal Farm intern / apprentice (plant, irrigate, weed, harvest)
- Farmer's Market manager / assistant and/or vendor
- Retail/Wholesale nursery production (greenhouse/sales)
- Farm Advisor and/or research assistant with County Ag Commissioner, Cooperative Extension or United States Department of Agriculture
- School Garden coordinator
- Compost production and sales
- Organic support/sales and services (fertilizers, seed, equipment, etc...)
- Sustainable livestock production / Range or ranch manager
- Chef/ restaurateur
- Pest control advisor
- Public garden / botanical garden employee
- Farm/Garden estate caretaker
- Agriculture teacher / public speaker/ company representative
- Value-added product creator (i.e. wreaths, jams, brewer, tincture, oils, etc...)
- Nursery grower/worker for container vegetables, herbs, bare-root fruit trees

Santa Rosa Junior College is the only community college in California that offers an A.S. degree and two certificates in Sustainable Agriculture. Some of the curriculum is aligned with lower division Sustainable Agriculture major preparation at UC Davis, UC Santa Cruz, Cal Poly, and other universities.

Licensing/accrediting agencies related to Sustainable Agriculture programs are optional. Certifications can be obtained if desired in CCOF, Sustainably Farmed, Humane Farmed, Biodynamically Farmed, etc...

There has been a substantial increase in grant funding. One grant acquired by the Sustainable Agriculture program for 2010-2011 was a Felton Foundation Grant for \$25,000. Additionally, a USDA Farmers Market Promotion Program grant was awarded in 2011 in the amount of \$67,719 over 2 years, aimed at promoting Shone Farm products. Additionally, the Ag Department, the SRJC Small Business Development Center and the Latino Service Providers collaborated with the University of California Cooperative Extension (the lead agency) on a \$750,000 grant aimed at training beginning future ranchers and farmers. The USDA Beginning Farmers and Ranchers grant will run for 9 months starting March 2012. The final grant awarded in the Sustainable Agriculture program came from the CCC Chancellor's Office. This \$47,000 Collaborative Sustainable Agriculture Grant is aimed at providing elementary school children exposure to sustainable agriculture. Funding will be used to provide visits to Shone Farm and a 2 week long intensive summer academy.

### **VETERINARY TECHNICIAN**

The demand for Registered Veterinary Technicians is nothing short of extreme. There are far fewer RVTs in Sonoma County than are required by the labor market. The California 2010 EDD data shows an acceleration of need for RVTs. In 2010 there were 120 RVTs and an anticipated need of 200 by 2020. This 66.7% growth is

once again the strongest for any county in California. In addition there are the estimated 250 Veterinary Assistant positions in our county. State estimates for the 2010-2020 time frame include an anticipated 31% growth in technician positions (2,600 new jobs). According to the California Veterinary Medical Board there are 138 Registered Veterinary Technicians residing in the Sonoma County as of January 2012 to fill an estimated 240 positions. EDD labor market data are consistent with the number of workplace facilities (94 current premise permits) and veterinarians (231 valid licenses) in Sonoma County. According to the US Bureau of Labor Statistics the job prospects for Veterinary Technicians is "excellent". The 2010 data update has an increased anticipated growth of 52% or over 40,000 new jobs and 50,000 openings over the next 10 years... As of 2010 Veterinary Technicians are now listed under "Healthcare Professions" by BLS rather than Professional, Scientific, and Technical Services. The job prospects are still excellent, but the category change means they are no longer at the top of their list.

Santa Rosa Junior College is the predominant source for RVTs. Over the last three years 84% (26/31) of new RVT licenses in Sonoma County were earned by SRJC students.

Over the last few years Dr. Famini has developed a google group for employment and other announcements. Over 300 current and former SRJC students are members and hospitals now routinely email job announcements to Dr. Famini in preference to Craigslist or other sources. Taking into account the usual sources (craigslist, etc.) and the google group listings there are over 300 jobs/year for veterinary support staff in the Sonoma/Marin county area.

The closest community colleges that offer a Veterinary Technician program are Consumnes River College in Sacramento (~2 hour drive) and Foothill College in Los Altos Hills (1hr 45 minute drive). There are also branches of the private school Western Career College in Pleasant Hill and San Leandro (about 1hr 15 minute drive). However, current Western Career College tuition is about \$35,000 for the two-year program. All of the above programs are distinct from SRJC in that they are AVMA approved full time programs that include far more extensive hands-on component, maintain colonies of canine and feline patients, etc.

Recent articles mentioning the strong job market for Registered Veterinary Technicians include:

"Eight secure jobs worth landing this spring and beyond" on Fox Business News posted 3/27/2013.

"Animals Need Health Care Too" in Community College Week from 2/22/2010.

"Vet Techs in Demand" in the Press Democrat on 8/23/2009. This was a reprint of a New York Times Article.

Veterinary Technicians were listed as Number 2 in "150 Best Recession-Proof Jobs" by Laurence Shatkin, Jist Publishing, November 2008.

The critical demand for Registered Veterinary Technicians locally, statewide, and nationally continues to fuel strong student enrollment in courses. Additionally, there is an overall trend towards larger specialty hospitals and corporate ownership of hospitals (Veterinary Centers of America and Banfield). The larger and corporate hospitals tend to better utilize Registered Veterinary Technicians. This is due to both to a need for more technically advanced veterinary assistants as well as the fact that RVTs are a cheaper alternative to perform many of the tasks reserved for veterinarians in smaller hospitals. This includes a greater role in client communication, veterinary dentistry, vaccine appointments, etc. Larger and corporate practices are also less likely to allow unregistered assistants to perform tasks legally reserved for RVTs such as inducing anesthesia and placing splints.

The SRJC Veterinary Technician Program fulfills the state Veterinary Medical Board requirements for students to sit for the state Registered Veterinary Technician board exam through the alternate route. There are three routes to be eligible to sit for licensure. 1) Attend a full time American Veterinary Medical Association 2-year program (the closest program is ~100 miles from Santa Rosa) 2) Already have an equivalent license from another state and have a minimum number of clinical experience or 3) the Alternative Route. The alternative route consists of two basic requirements: Academic requirements and Clinical experience requirements. The Academic requirements consist of many specific areas of instruction within 20 semester units. The SRJC fulfills this requirement. The Clinical experience required is 4416 hours under the supervision of a veterinarian and includes a list of specific job tasks that must be completed. The SRJC program includes the Academic component only and it is up to the student to meet the clinical requirement.

The Veterinary Technician Program offers an annual seminar on the admissions requirements and pathways to Veterinary School. This is followed by a unique tour of the UC Davis School of Veterinary Medicine which includes touring the Anatomy Lab, Surgery Lab, the teaching Hospital, meeting the admissions staff and sitting in on a few veterinary school lectures. We are the only community college in the state offering this opportunity.

Several partnerships have been developed over the last few years.

- The Small Animal Emergency Medicine class is now offered every odd Spring Semester. This class is held at Animal Care Center, the largest veterinary emergency center in the county. This class included over a dozen guest speakers from both Animal Care Center and PetCare emergency veterinary hospitals. It has become the most popular elective in the program.
- In order to provide hands-on class activities with live animals the program now partners with several local rescue groups: Bergin University for Canine Studies (formerly Assistance Dog Institute), Pets As Loving Support therapy dogs, cats from two local non-profit rescue groups, and Reading Therapy Dogs from another group. Animals from Sonoma County Reptile Rescue are also used in a single class per semester.
- Through cooperation with Paws Are Loving Support and the Humane Society of Sonoma County we have put on a free vaccine clinic for the pets of AIDS patients.

This is the capstone experience of the Small Animal Nursing (AnHlt120) course. This is a win/win/win situation where the SRJC students gain valuable experience, PALS and their pets get preventative medical care, and the Humane Society is provided with a labor force to make this event possible.

- Cooperation with the shelters in the county continues with students volunteering or working in 5 different animal shelters including the continued intern program at Sonoma County Animal Care and Control helping this municipal shelter and giving students hands on experience in a variety of capacities including animal intake, spay/neuter clinic support, etc.
- Since fall 2010, the SRJC program offers a job shadowing rotation where students are invited to observe and participate in a variety of different veterinary clinical settings. This semester long weekly rotation has exposed 12 to 15 students per semester to hospitals including: Eye Care Center for Animals, Humane Society of Sonoma County, Large Animal Hospital of Cotati, Memorial Beach Animal Hospital, Montecito Animal Hospital, PetCare, VCA Animal Care Center, VCA Forestville, and Bradner Veterinary Hospital among others.

There has been minimal change in outside funding. The Redwood Empire Veterinary Medical Association has pledged to contribute \$500 year to fund an annual scholarship that would allow a Veterinary Technician student to sit for their Board Exams. Additionally, the Association now holds their annual Continuing Education event for veterinarians at the SRJC Shone Farm. For the 2010-2011 year, Dr. Famini received \$21,410 in CTEA funding and \$7,000 in 2012-13 for Vet Tech instructional equipment.

Historically no local venue existed for working RVTs to communicate or gain a perspective of their profession outside the walls of their own clinic. Additionally, as of July 2011 there is mandatory CE requirement for RVTs. To remedy these two problems Dr. Dan Famini founded the Redwood Empire Veterinary Technician Association. Since July 2011 this organization has held monthly CE and networking meetings with 50-80 attending RVTs and veterinary support staff. Now there are 11 person Executive Board consisting of 10 RVTs and Dr. Famini, with an all RVT officer team taking this project forward.

## **VITICULTURE**

Winegrape production in Sonoma County totals over four hundred million dollars annually and accounts for the greatest revenue of all agricultural crops in the county (Figures from Sonoma County Ag Comm Office 2010 Crop Report can be found at [http://www.sonoma-county.org/agcomm/crop\\_report.htm](http://www.sonoma-county.org/agcomm/crop_report.htm)). About 73% of Sonoma County's agricultural production is growing wine grapes—60,302 acres of vineyards, with over 1100 growers.

The long-term outlook for the wine industry is positive as demographic trends suggest the consumer market will remain strong. In 2012, the Wine Institute reported a record 5.6 percent increase in cases of California wine sold in the U.S., compared to the previous year. The estimated retail value of the shipments totaled nearly \$20 billion, according to figures that institute released. During the same

period, U.S. wine exports – 90 percent of which came from California – reached a new record of \$1.39 billion in winery revenues in 2011, an increase of 21.7 percent compared to 2010. 120,000 new wine labels were approved last year by the U.S. Tax and Trade Bureau.

Total wine sales in the U.S. from all production sources – California, other U.S. states and foreign countries – climbed to a new record of 347 million cases, a 5.3 percent jump from 2010, with an estimated retail value of \$32.5 billion, John Fredrickson of Gomberg Fredrickson & Associates reported, marking the 18th consecutive year of volume growth in the U.S. California's nearly 212 million cases held a 61 percent share of the U.S. market.

Additionally it should be noted that Sonoma County's reputation as a major wine producing area will grow over the next several years as a result of recent legislation and marketing efforts. A state requirement that wines produced in the county include the phrase "Sonoma County" along with its American Viticulture Area was signed into law in fall 2011 and will go into effect in 2014. Similar laws are credited with increasing the profile of other California wine growing areas (including neighboring Napa County) resulting in an increase in viticulture productions.

Partnerships: Partnerships exist between the SRJC Viticulture program and local wineries purchasing fruit from Shone Farm Vineyard. Dependent upon contract negotiations, these wineries include Benzinger, Rodney Strong, Merry Edwards, La Crema, Arrowwood, Korbel, Clos Du Bois, and Sonoma Cutrer. Also the Sonoma County Winegrape Commission has been conducting workshops and trainings at the Shone Farm and SRJC viticulture students have been invited to participate at no charge.

Increase of funding from Sonoma County Vineyard Technical Group for some specialized pieces of equipment for Viticulture classes has been provided. Additionally the Sonoma County Winegrape Commission has provided a weather station for Shone Farm, which serves as a resource for all of Sonoma County as well as an educational tool for students.

Napa Valley College and Allan Hancock College provides a community college certificate or major in viticulture.

## **WINE STUDIES**

The Wine Studies program has four emphases: Wine Evaluation & Service, Wine Business & Marketing, Enology, and Wines & Vines. The program prepares students for a variety of positions in the wine industry, such as: grower relations manager, viticulture wine quality specialist, winery laboratory assistants, cellar masters, assistant winemakers, winery education directors, wine quality control specialists, sensory evaluation personnel, wine sales specialist, wine club administrator, sales manager, public relations and marketing coordinator, and wine merchandiser.

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Numerous SRJC Wine Studies courses are articulate with UC/CSU viticulture and enology programs.

Napa Valley College, Allan Hancock College, and Las Positas provide degrees, or certificates in the same discipline. Additionally it should be noted that there are a number of private Wine Studies programs.

There are no requirements of licensing/accrediting agencies related to wine studies. There are future plans to create some wine sommelier accredited licensing certificates.

Efforts are underway to expand opportunities for students to become involved in the Shone Farm Winery, assisting the winemaker with all aspects of the operation, from production to marketing and distribution.

### **In Summary**

In light of all these positive employment trends student enrollment in the Ag/NR Department continues to be high. The department anticipates this trend to continue and will need to work closely with the administration to avoid too drastic of a schedule reduction. Many Ag/NR classes are already over-enrolled and given the size of classrooms, laboratory requirement of most Ag/NR classes, lack of full time laboratory support staff, it is not possible to increase these any further. Much of what the department would like to do in terms of expansion and interdepartmental collaboration will only be possible with permanent staffing support.

## **5.11b Academic Standards**

The Ag/NR Department meets annually to discuss academic standards ensuring that coursework is reflective of CC/CSU/UC level work.



6.1 Progress and Accomplishments Since Last Program/Unit Review

Rank	Location	SP	M	Goal	Objective	Time Frame	Progress to Date
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6.2a Program/Unit Conclusions

Location	Program/Unit Conclusions
Other	
ALL	Having an Agriculture/Natural Resources Dean with a background in agriculture has been transformative for the department. There is renewed energy and vision toward a bright future for the department

6.2b PRPP Editor Feedback - Optional

6.3a Annual Unit Plan

Rank	Location	SP	M	Goal	Objective	Time Frame	Resources Required
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