

CAL POLY ANIMAL SCIENCE DEPARTMENT ENTERPRISES

ACADEMIC QUADRATHLON ENTERPRISE

The Animal Science Academic Quadrathlon focuses on a four-part competition that demonstrates a team's ability to be well-rounded animal scientists. The Academic Quadrathlon is sponsored by the American Society of Animal Science and hosts a regional and national competition. This multi-disciplinary and multi-species competition consists of the following four events that demonstrates a team's animal science expertise: a written exam, oral presentation, lab practicum, and quiz bowl.

ARTIFICIAL INSEMINATION ENTERPRISE

This is a work-experience enterprise designed to allow students first-hand knowledge in learning to effectively synchronize, heat detect and successfully artificially breed beef cattle. The objective of this enterprise is to provide students with training in the most up-to-date methods of husbandry practices, estrus synchronization and artificial breeding techniques. Students will be responsible for breeding all Cal Poly cows and heifers in the fall and winter quarters.

BROILER PRODUCTION ENTERPRISE

Students manage the Cal Poly Broiler Flock (6000 broiler chickens) under the guidance of the enterprise supervisor. Activities include all aspects of maintaining and rearing the flock, from chick placement (day 1) to live haul (day 44).

BULL TEST ENTERPRISE

Learn about running a performance bull test, engage in health checks, weighing, vaccinating, marketing, and management of a bull sale. Meets one day per week plus additional required work and weight days and a once per week health check. Must return to help with Bull Test Sale the following fall.

CALVING ENTERPRISE

This enterprise is a work-experience project designed to produce students with first-hand knowledge to properly calve first-calf heifers. The objectives of this enterprise are to provide students with training in the care and management of cows and calves during and after parturition, gain practical veterinary skills, develop animal handling techniques, and learn how to work with a team. During spring quarter, we will meet as a class to go over safety and calving procedures/management. Handouts and videos will be shown to prepare students for calving season. Students are expected to participate in weekly meetings and work as a team in checking heifers 24/7 during the calving period, 8/14 – 10/20. Teamwork and communication skills are very important for the success of the enterprise class and most importantly for the health and well-being of the heifers and calves.

CREAMERY ENTERPRISE

This enterprise will give students the opportunity to see the logistics of the Cal Poly Creamery during the holiday gift pack season. Enterprise activities at the Creamery will include packaging and testing products that are shipped to customers. Students will learn the inner workings of a successful food processing facility by working alongside individuals who have years of experience in the industry.

DAIRY CALF ENTERPRISE

Monitoring, maintenance and evaluation of close-up cow activity and housing. Modern dairy management of new born calves including 1) colostrum management and feeding, 2) navel dipping, dehorning and vaccination, 3) identification, 4) animal handling and housing, 5) calf feeding and nutrition. Students will be expected to spend approximately six hours/week outside of regularly scheduled class meetings working with the close-up cows and calves.

DAIRY CATTLE JUDGING ENTERPRISE

Selection of dairy cattle on type conformation and correlation between type and production traits: training, practice and presentation of oral reasons for given classes of dairy cattle. Students interested in competing in dairy cattle evaluation contests will enroll. Dairy cattle judging practices schedule for, but not limited to scheduled class meeting time.

DAIRY CHALLENGE ENTERPRISE

Students will generally assess the overall operation of a dairy farm including: 1) Dairy facility design and maintenance 2) Reproduction and nutrition 3) Calf Care 4) Cow Comfort 5) Employee management 6) Dairy's financial stability. Students will also utilize herd software as evaluation tools and present an evaluation of the dairy business in oral PPT format. Requirements for completion of the course: Attend lectures and presentations at Cal Poly Dairy, attend at least two dairy visits, and attend lecture and give final presentation at Cal Poly.

DAIRY PRODUCTS EVALUATION ENTERPRISE

Evaluation of six categories of dairy products (milk, cheddar cheese, cottage cheese, strawberry yogurt, butter and ice-cream) based on flavor, body/texture and appearance. Students will learn to utilize their method honed sensory skills and standardized scorecards to evaluate the quality of and score the products.

DAIRY AUCTION ENTERPRISE

Students will prep and participate in the annual Cal Poly Showcase Sale. Full participation during the sale weekend (December 4 and 5, 2021) is expected, as well as caring for the sale animals after the sale (until they are delivered).

EQUINE BREEDING ENTERPRISE

Students receive "hands on" experience in applied reproduction in horses through the Cal Polys "learn by doing" approach to education. Students manage broodmares, stallions, and foals on a daily basis, and they become competent in stallion and semen handling and artificial insemination of the broodmare. Students will also gain insight into the financial aspects of a breeding farm management, client communication, and facilities management.

ESCUELA COW-CALF ENTERPRISE

This is a work-experience enterprise designed to allow students first-hand knowledge to manage a commercial cow/calf operation during an entire year. The cows are owned by the Cal Poly Corporation and the land/facilities are owned by Cal Poly State University. Students assist the Beef Operations Manager in managing the cattle and the ranch infrastructure. Students are expected to participate in weekly enterprise meetings and participate in ranch operations for a minimum of five hours/week. These may include feeding and moving the cattle, fixing fence, performing basic animal care procedures (vaccinations, worming, implanting, etc.), developing water sources, etc.

FOALING ENTERPRISE

This enterprise gives students the opportunity to participate and learn about all aspects of foaling. This enterprise includes lecture components, but is primarily a hands on "learn by doing" enterprise. Students will actively participate in caring for the pre-partum mare; will work with classmates to provide 24 hour foal watch; will assist with foaling and all aspects of neo-natal care; will handle and halter train foals; and provide all aspects of care and management of the broodmare and foal herd. This is a two-quarter enterprise (winter and spring) and requires students to commit to both quarters. There will also be hours required outside of class time per week.

GOAT ENTERPRISE

This enterprise provides an introduction to the emerging small ruminant industry known as Targeted Grazing or vegetation management where sheep and goats are used as land management tools to attain specific vegetation goals. This enterprise will provide experience and knowledge regarding several topics that specifically pertain to this type of operation, including: appropriate goat breeds, ruminant digestion, nutrition, reproduction, predators, proper handling and herding, grazing principles and plant identification. In-field work will emphasize how goats can be used to manage vegetation, how to manipulate their eating habits and animal impact to enhance habitats and improve soil quality. Students will also learn about breeding and kidding, how to recognize herd health issues, assess nutritive needs, build electric fencing, and identify target plant species.

ICE CREAM ENTERPRISE

Students in this enterprise will gain hands-on experience in commercial-scale production of ice cream. The ice cream produced will be made in university's CFDA-inspected facility using milk from Cal Poly's own dairy cows. Students will market and sell product to the campus, at the local farmers market, and in community stores.

LAMBING ENTERPRISE

This enterprise offers unique experience with lambing out Cal Poly's ewe herd. Each winter there are 90 ewes that will be lambing late January through March. The lecture material will cover an overview of sheep reproduction but focus on late gestation, parturition, dystocia, and critical young lamb care. In the field work times will offer the best "learn by doing" experience from observing ewes birth and raise their young with little to no assistance and learning when to get involved with those that may need some assistance. Students sign up for morning or evening shifts to go out in the field and perform lamb checks which includes processing new lambs, assessing health of all lambs and ewes, and help moving the herd to new pastures for grazing.

MARE CARE ENTERPRISE

Beginning horse care. Students learn the basics about how to approach a horse; put on a halter; lead the horse; groom the horse and all other basic horse care information including feeding, nutrition and basic horse health.

MARINE MAMMAL HEALTH ENTERPRISE

This enterprise provides an opportunity for hands-on learning through a partnership with The Marine Mammal Center, a non-profit wildlife hospital dedicated to the rescue, rehabilitation, and release of sick, injured, or orphaned marine mammals. Lectures will cover topics on marine mammal rescue, anatomy and physiology, animal husbandry, veterinary care, common diseases, necropsy techniques, and population-level health threats. Students will assist with a variety of tasks which may include beach rescue of stranded marine mammals, physical restraint, food preparation, oral gavage tube feeding, animal husbandry, proper cleaning and disinfection, and documentation in the medical record. Volunteer shifts will take place off campus at The Marine Mammal Center in Morro Bay and students must provide their own transportation.

MEAT PROCESSING ENTERPRISE

In this enterprise, you will have the opportunity to experience how to process various meat products at the J & G Lau Family Meat Processing Center. From curing, smoking and slicing bacon to cutting beef ribeye steaks, this enterprise will allow you to learn how a variety of different meat products are produced. In addition to learning how to process the product, you will learn how to package and market the product through our retail outlets to our consumers within the community.

MUSTANG ENTERPRISE

This enterprise manages the care and training of the Cal Poly mascots. This includes desensitization training for the mustangs and game day preparation for home football games and other events that locally represent Cal Poly. We attend these events to represent the "Mustang Way" with Pride, Responsibility and Character. This enterprise has set responsibilities and required tasks throughout the week that are taken care of by the students. We meet on game days and weekends to handle larger tasks such as tack cleaning or flag desensitization.

PACKING ENTERPRISE

This enterprise gives a student the chance to learn better horsemanship by learning how to pack a load onto a horse or mule. Students will learn how to train an animal to accept a load, how to pony a packed animal and a pack string in varying terrains. They will also learn management and communication skills by designing the loads, choosing which student and equine is right for which portion of the task at hand, and by carrying out that task.

QUAIL ENTERPRISE

Students manage the Cal Poly Quail Breeding Program under the guidance of the enterprise supervisor. Activities include basic husbandry of game birds, breeding, candling, hatchery, necropsies, nutrition and record keeping.

QUARTER HORSE ENTERPRISE

This enterprise will provide the student with the opportunity to BEGIN the training and life-long development of a young horse. Although no one should expect to train professionally following the starting of a few colts, there are some very positive outcomes to be gained from this process that include: confidence, self-esteem, responsibility, teamwork, riding skills, and a better understanding of equine body control and positioning, and equine behavior. This course will allow the students to develop and implement a horse sale to be held at Cal Poly at the end of the designated quarter.

QUARTER HORSE SALES PREP ENTERPRISE

Halter breaking and training of select group of performance bred Quarter Horse foals. Students learn all aspects of preparing a horse for a sale including developing a nutrition, grooming and exercise program.

RANGELAND MANAGEMENT ENTERPRISE

Students have a variety of opportunities for tasks and projects related to rangeland science and management in the rangeland management enterprise. Tasks include performing seasonal monitoring of pasture productivity, evaluating end-of-season (fall) pasture condition, evaluating wildlife habitat, processing and analyzing field data, testing new field equipment and technology (like mobile-based mapping applications), and assisting with ongoing research projects. Enterprise activities take place on the main Cal Poly ranches, Swanton Pacific Ranch, Camp San Luis Obispo (local Army National Guard training facility), the Bitter Creek National Wildlife Refuge, private ranches and conservation lands across the greater central coast. Most tasks are done as students have time available; field work is done in groups of various sizes.

REPTILE HUSBANDRY ENTERPRISE

Zoos and aquariums accredited by the Association of Zoos and Aquariums (AZA) attract over 180 million visitors annually, more than the combined attendance of all major professional sporting events. These public and non-profit animal care facilities enhance local and regional economies by supporting more than 126,000 jobs, collectively generating \$6.0 billion in annual economic activity (including \$2.65 billion in personal earnings/taxable income) and spend \$3.262 billion in operating and capital outlays. Over 15% of incoming Cal Poly Animal Science freshman indicate an interest in careers with zoo and wild animal species. Animal Science concepts and techniques are directly transferable to this industry. Zoos and aquariums are major consumers of commodities, products and services marketed primarily to the food animal industry, as well as food animal products themselves. The Reptile Husbandry Enterprise expands the 'learn by doing' species experiences available to Cal Poly students which has contributed to their success in competing for internships and career positions among highly-trained professional staff at AZA-accredited zoos and aquariums providing excellent care for more than 750,000 animals.

RESEARCH ENTERPRISES

Nutrition Research: Foods consumed by animals provide necessary energy and nutrients. In all animal species, nutrition affects health and welfare, as well as susceptibility and recovery from disease. Additionally, feed costs are the most significant (60-70%) cost of animal care and production. The Nutrition Research Enterprise affords students the opportunity to participate at various levels of on-going nutrition research projects. Interaction with graduate students, collaborating faculty from multiple departments and industry partners is highly encouraged. These experiences expose students to professional career options, as well as prepare them to more effectively compete for internship opportunities.

SAUSAGE ENTERPRISE

The purpose of this enterprise is to expose students to the production of sausage products for both human and pet consumption. Students will learn through their hands-on experience how to formulate recipes, link, slice, cook, package and market Cal Poly sausage products from an artisanal and industrial perspective. While learning the various applications of sausage production at Cal Poly's Meat Processing Center, students will learn how food safety, production efficiency and product development translate to a larger industrial setting. Throughout this course, students will develop new recipes to potentially sell Cal Poly raw pet food, as well as create their own sausage product to be sampled at the end of the quarter.

SWINE ENTERPRISE

Students will be involved in the daily production practices of the swine center. Including sow care, piglet care, health, reproduction, nutrition and marketing. Swine experience or ASCI 222 is preferred but not required.

VET CLINIC ENTERPRISE

This enterprise will expose students to procedures and skill sets important in the operations of a veterinary clinic, including: animal handling, restraint and care, preparation of diagnostic blood smears and fecal floats for in-house or outside labs, injection techniques, disposal of hazardous wastes, preparation of and sterilization of surgical packs, function of surgical instruments, learning about anesthesia equipment and maintenance, working with radiography, basic pharmacology and drug storage, record keeping and facilities maintenance and hospital layouts. Students will have some opportunity to observe and assist veterinarians with cases, dictated by elective and short-notice caseload at the clinic and at the production units.

VETERINARY COMMUNITY SERVICE ENTERPRISE

This enterprise is a partnership between Cal Poly and the Prado Center, a County of SLO shelter for the homeless. Students will apply the basic veterinary skills acquired in ASCI 290 Veterinary Clinic Enterprise and/or ASCI 310 through providing basic veterinary services (physical exams, flea and tick prevention, vaccination, nail trims, etc.) one day per month to pets of the clients of Prado Center. The outreach clinic will take place on site at the Prado Center in SLO. Students will be solely responsible for preparing for and managing the outreach clinics. Students will meet weekly with their instructor to review and give rounds to their colleagues on the veterinary cases they saw at the Center, manage inventory, develop and pursue fundraising outreach, prepare educational materials for the clients, and more. Additional time will be required out of class and clinic hours.

WESTERN BONANZA ENTERPRISE

Cal Poly's Western Bonanza Junior Livestock Show began as a senior project in 1985 and has since evolved to be one of the most competitive jackpot shows in the U.S. Junior livestock exhibitors come from all over the West Coast to show their animals for cash prizes and awards. Members of this enterprise will assist in planning, setting up and running the show. Applications for this enterprise are available in February of the prior year. ASCI 212 is a required prerequisite. All majors are welcome and no livestock experience is necessary.

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