

SAE Program Examples

Power Systems Entrepreneurship

1. Design custom computer programs using Excel or other software to solve problems for producers
2. Start a custom spraying service that utilizes GPS
3. Start a basic computer help service for area agriculture producers
4. Build garden sheds for homeowners
5. Operate a lawnmower service and repair business
6. Design, build, and sell lawn ornaments
7. Provide basic internet and email training to producers
8. Operate a business that computerizes farmers' records
9. Run a custom fence building and repair business
10. Map fields, weeds, etc. for producers using GPS and GIS
11. Pour concrete forms for machine sheds or other buildings
12. Machine and rebuild engine parts

Power Systems Placement

1. Work for a local cement company that installs agricultural applications
2. Manage the inventory of the agriculture mechanics shop
3. Work with country soil and water engineer – assist in measuring and engineer design
4. Work for a plumbing business
5. Work for a local university or college in an agriculture mechanics lab
6. Work as a diesel mechanic assistant
7. Work for an irrigation service company
8. Assist with GPS mapping for an agronomic service company
9. Work in a welding shop
10. Work for a local electrician
11. Work for a plumbing company specializing in waste, air, and water systems
12. Work for an electrician
13. Work as an assistant for an auto, truck, or tractor mechanics
14. Provide maintenance for school shop equipment
15. Work as a surveyor's assistant
16. Work for a small engine repair shop – overhaul and repair

Power Systems Research

1. Research the adoption of technology by agriculture producers in your area
2. Research the differences among farm management software systems
3. Test the strength of different types of welds
4. Research the cost versus return of automating systems in an agriculture processing facility
5. Research the energy use of different types of lighting systems in farm buildings
6. Research the water savings accomplished by new irrigation technologies
7. Research the effectiveness of different styles of tillage equipment

Power Systems Exploratory

1. Study the latest advancements of robotics in agriculture
2. Study the possible modifications in agriculture equipment for persons with disabilities
3. Interview area agriculture producers about the changes in technology over the past 50 years
4. Conduct a field demonstration on GPS systems for elementary students
5. Develop “hands-on” activities for the class
6. Complete home and farmstead improvement construction activities
7. Hold a classroom demonstration on automated systems
8. Construct prototypes of hydraulic systems
9. Prepare a 10 minute presentation on GIS mapping for forestry, wildlife, soil, and water management
10. Create a teaching model to show how a small gas engine works
11. Create a demonstration model that shows proper and improper welding techniques
12. Shadow a computer professional in any agriculture-related industry
13. Report on all of the control systems used in a typical greenhouse

Environmental Science Entrepreneurship

1. Cut firewood and sell at local stores
2. Raise Christmas trees and sell at Christmas time
3. Stock and maintain fish population in ponds
4. Raise wild game fowl for sale to local hunters
5. Raise fish for the state fish and game department
6. Operate a trapping business
7. Contract with landowners to plant food plots for wildlife
8. Construct and sell game feeders
9. Create and sell soil survey maps for area farmers and land owners
10. Build bat, bird, duck, or squirrel houses for use or sale
11. Develop hunting ranges; set up indoor/outdoor ranges for bow competitions
12. Develop a forest/wildlife management plan for a local landowner
13. Create a service to remove algae from area lakes and fishing ponds
14. Provide a wood chipping service and sell the chips as mulch
15. Start a leaf collection service in the fall and sell mulch
16. Start a manure removal business for animal owners
17. Start a water sample collecting service
18. Sell radon detectors and collect radon samples
19. Run a soil testing service for town gardens or farm fields – take samples, send in and deliver results
20. Sell shop safety equipment door to door
21. Start a service to collect used pesticide containers
22. Own and operate a water systems farm drainage (tilling) company
23. Develop marshlands for game
24. Establish green belts along streams on your farm
25. Producing and selling worms for fishing bait or reptile food
26. Collecting and selling owl pellets

Environmental Science Placement

1. Work for a nature center
2. Assist Christmas tree farmers with planting and trimming
3. Work for a park service during the summer
4. Work at a sawmill
5. Provide outdoor education materials for camps
6. Maintain and supervise the school grounds
7. Serve as a hunting guide
8. Work for a landowner to plant habitat for wild game
9. Work in the logging business
10. Work for the fish and game department
11. Assist a timber stand improvement specialist
12. Work at a bait shop
13. Work for parks and recreation in maintenance department
14. Assist local city management with summer programs by serving as a guide
15. Assist landowners with installation of soil conservation practices
16. Work for the natural resource and conservation district
17. Work at a fishery monitoring water quality
18. Work as a trencher for waste water lagoons
19. Work for a testing laboratory
20. Works for a company that installs plastic drainage tile for farm fields
21. Assists local agencies with data collection for watersheds
22. Work as a water quality lab assistant

Environmental Science Research

1. Research the effectiveness of habitat restoration projects in your community
2. Study the effects of excessive lawn chemicals on wildlife
3. Research impacts of using ATVs on public lands
4. Research the impacts of various insects on woodlot management
5. Study the changes in the mining industry's techniques over time
6. Discover the native plants for your ecological area and determine how prevalent that are currently
7. Study soil profiles from multiple locations in your community and develop a soil map
8. Research the benefits of using GIS mapping for natural resources
9. Research best practices for improving fish habitat in local ponds
10. Research your local parks to find out what activities people like and use the most
11. Monitor dust levels in the air at various sites and times throughout the year and work to determine a cause
12. Research the effects of livestock feed on waste issues
13. Monitor pollen counts in an area by working with labs and weather stations
14. Research the effects of erosion on various cover crops
15. Research methods for preventing common accidents in agriculture department laboratory
16. Research rate of accidents on area farms and compare to national averages
17. Research area pollution concerns
18. Conduct a water quality study
19. Research the benefits of the CRP program

Environmental Science Exploratory

1. Organize and participate in a wildlife field day
2. Create a brochure on creating wildlife habitat in backyards to share with community
3. Create posters on soil conservation practices for homeowners
4. Volunteer to assist at campgrounds with cleanup and maintenance
5. Plan a wildlife field trip
6. Create activities or laboratories for a natural resources class
7. Process and deliver seedlings to elementary school students
8. Woodlot management and improvement including firewood, habitat, etc.
9. Clean shelterbelts and stack refuge in piles
10. Interview a naturalist
11. Shadow officials at a government natural resources agency
12. Start a fish pond and teach others how to fish
13. Attend the meeting of local or state conservation boards
14. Habitat construction – make brush piles, plant wildlife habitats, etc.
15. Develop habitat trails for walking
16. Study animal waste legislation at local, state, and federal level
17. Study pollution control practices
18. Conduct a tour of area farms and ranches that practice effective pollution control
19. Develop a plan to manage school food waste
20. Lead farm safety program for elementary students
21. Volunteer to monitor water quality for community ponds
22. Assist community watershed action groups
23. Collect water samples for local or state agencies
24. Conduct composting workshops for homeowners
25. Develop and implement a farm safety class for elementary school students
26. Put together a town safety package – mark all signs, fire hydrants, and water drains
27. Take part in a mentorship program with the local soil and water conservation district

Animal Science Entrepreneurship

1. Operate a poultry litter clean-out service
2. Operate a custom heifer raising service
3. Operate a custom hog raising business
4. Operate a pet-sitting service
5. Provide a kennel cleaning service
6. Raise and sell farm-fresh eggs
7. Raise and sell purebred dogs
8. Raise fish for the state fish and game department
9. Provide equine training services
10. Provide fishing and hiking services for area youth groups and elementary students
11. Raise and train hunting dogs
12. Raise chinchillas, hamsters or gerbils and sell them on the internet
13. Raise game birds to sell for the training of bird dogs
14. Raise game fish for sale to stock ponds
15. Raise indigenous snakes and release into the wild (at approved area) each summer
16. Raise market pigs

17. Raise pheasants or quail to be released into the wild
18. Raise your own livestock or specialty animals
19. Run a trapping business
20. Start a dog obedience training service
21. Start a dog walking business
22. Grow catfish to sell to local cafes
23. Form a cooperative with other students to raise broiler chickens
24. Buy and show a calf at fairs
25. Raising and selling butterflies
26. Raising and breeding reptiles
27. Producing homemade soap (goat milk, bee wax, etc.)

Animal Science Placement

1. Work at a university research lab caring for small animals
2. Work at a livestock farm or a ranch
3. Work at a pet shop
4. Work for a predator control service
5. Work for a rodeo company caring for animals and assisting with rodeos
6. Work for the state game and fish department
7. Work at the local livestock auction barn
8. Work in the grocery store meat department
9. Work on a dairy farm or heifer raising farm
10. Work on an exotic animal farm
11. Assist a horse group that works with disabled students
12. Participate in a mentorship program with a taxidermist
13. Take care of classroom animals
14. Work as a beef feedlot assistant
15. Work as a veterinarian assistant
16. Work as a wildlife outfitter or guide
17. Maintain the school's aquaculture system
18. Manage a small aquatics lab
19. Work at a horse stable
20. Work for a pet-sitting service

Animal Science Research

1. Conduct feed trials for growing broiler chickens
2. Research cage layers versus floor layers for egg production
3. Research effectiveness of various estrus synchronization hormones
4. Research feed trial testing different swine diets
5. Research methods of predator control and trapping
6. Discover the number of pet owners in the community and their priority concerns
7. Research the best diet to help obese pets lose weight
8. Study the effects of genetic selection in groups of animals over time
9. Test the selection of young pigs based on grade and lean yield at slaughter

Animal Science Exploratory

1. Create a classroom pet adoption program with elementary schools
2. Assist at local animal shelter
3. Conduct a survey of all livestock operations in your area
4. Conduct surveys of wildlife populations
5. Coordinate and conduct a horse safety camp
6. Maintain aquariums for local businesses
7. Manage livestock show and supplies for FFA chapter
8. Plan and implement a “hands-on” livestock field trip
9. Provide a home for homeless pets
10. Take small animals to nursing homes for visits
11. Volunteer to assist with a livestock show or county fair

Plant Science Entrepreneurship

1. Operate a custom combining service
2. Start a franchise of fruit/vegetable stands
3. Operate a custom spraying service
4. Start a service that cleans leaves from gutters
5. Operate a lawn maintenance/mowing service
6. Operate a hay hauling service
7. Clean and prune orchards
8. Sell and install water gardens
9. Grow and sell plants through the high school greenhouse
10. Grow flowers for sale at a local farmer’s market
11. Rent land from a neighbor and grow soybeans
12. Start your own pruning business
13. Start your own spraying business
14. Start your own forage testing service
15. Start your own soil sampling business
16. Provide services to fertilize lawns, till garden spots, prune trees, etc
17. Grow organic vegetables for a local café
18. Raise and sell pumpkins
19. Raise Christmas trees
20. Raise and sell strawberries
21. Start your own lawn mowing business
22. Grow and sell red worms used to produce compost
23. Plant rental business
24. Producing and selling mushrooms

Plant Science Placement

1. Work for an irrigation service provider
2. Work as an assistant sales manager at a turf equipment company
3. Conduct insect scouting for a seed corn company
4. Work at a local feed store
5. Work as a grain tester/handler for a local elevator
6. Be a sales associate at a garden or farm supply store

7. Work at a seed corn dealership
8. Work for a grain farmer
9. Work for a sprinkler installation business
10. Work as a range consultant
11. Work in an orchard
12. Work for an agronomy service and collect soil samples
13. Work for a lawn and landscape care business
14. Work in and monitor the school forest
15. Work at a nursery
16. Work at a golf course
17. Work for a local flower shop doing design, plant care, deliveries, etc
18. Work at the grain elevator during the summer
19. Work on a turf farm
20. Work with county soil scientist to map soils
21. Work at an area garden center

Plant Science Research

1. Test organic versus inorganic fertilizers on plant development
2. Research the effect of various planting times on yields of green beans
3. Research the effectiveness of GM crops
4. Research the best turn grass varieties for your area
5. Develop a test plot of various types of crops
6. Test forage samples under various conditions to determine feed values
7. Test drought tolerance of different species of crops (row and vegetable)
8. Research the best type of artificial light for plant growth

Plant Science Exploratory

1. Conduct a timber cruise and mark timber to be thinned
2. Manage the schools vegetable crop plots
3. Study plant propagation techniques
4. Provide forestry walk-through tours for elementary students
5. Plan plant-related activities and laboratories for classrooms
6. Complete a garden projection for the school land lab
7. Collect and laminate photos for plants from the nursery landscape CDE
8. Create a report about common houseplant diseases and how to care for them
9. Complete a report on 10 food plants that includes origin, uses, and cultivation practices
10. Build and maintain compost units at school or home
11. Take care of school flower beds or landscaping
12. Volunteer to work with landowners to improve their forest lots

Food Products and Processes Entrepreneurship

1. Make jams and jellies for sale at a farmer's market
2. Process wild game for jerky
3. Sell gourmet popcorn products
4. Use unsellable zucchini in baked goods as a side to vegetable production
5. Raise trout and sell to local restaurants
6. Collect wild mushrooms and sell to local vendors

7. Start a service to grow gardens for the elderly
8. Operate a wild bird processing service
9. Process and sell specialty products – bison, wildflowers, ostrich, etc.
10. Sell picked vegetables
11. Producing and selling maple syrup
12. Producing and selling hard candies

Food Products and Processes Placement

1. Work for a wild bird processing service
2. Work in the deli or bakery at a grocery stores
3. Work at a local bakery
4. Work at a meat production plant
5. Work at a produce facility that repackages and sells produce
6. Work at a vegetable or fruit canning factory
7. Work on a cranberry farm
8. Work for an agricultural seed cleaning and bragging company
9. Help at a local fruit/vegetable stand
10. Assist on an herb farm
11. Deliver sweet corn to customers for a local grower
12. Assist with produce selection at a grocery store

Food Products and Processes Research

1. Research genetic crossings in winter squash
2. Research the environmental effects on milk
3. Research genetic changes in various vegetable crops
4. Test ideas for new food products
5. Research incidents of food-borne illnesses in the community
6. Study the impact of various styles of labels on people's perception of the food
7. Research why new food fails to sell
8. Research the development and use of edible soybeans

Food Products and Processes Exploratory

1. Shadow a USDA meat inspector
2. Ask farmers for permission to glean fields for food to give to homeless shelters
3. Grow vegetables to give to local food pantry
4. Interview three companies that process or package food products
5. Create posters that show foods from raw to finished product
6. Work to establish a community vegetable garden
7. Present a food safety demonstration to elementary students
8. Prepare a food safety information kit covering safe handling of meat, eggs, and other fresh food products

Social Systems Entrepreneurship

1. Start a weekly price reporting service to publish in a newsletter
2. Design and make business cards, stationary, etc. for businesses or chapter members
3. Photograph and sell prints of agricultural sceneries
4. Designing a smart phone app for plant or animal identification

Social Systems Placement

1. Work for a local tax accountant who handles agriculture customers
2. Work for the local agriculture insurance company
3. Work for an agriculture marketing services company
4. Work as an intern for the local agriculture education department (school farm, labs, etc)
5. Work as a service provider in a grocery store
6. Volunteer to assist FFA members with records and applications
7. Produce a weekly column for a newspaper about agricultural issues
8. Work for an agriculture auctioneer service
9. Interning at a local middle or elementary school

Social Systems Research

1. Study the change in input costs over time for a given agricultural business or industry
2. Research the changes in buying habits among farmers over time
3. Research the biggest challenges producers face when adopting new technology

Social Systems Exploratory

1. Take inventory of and categorize all agriculture-related businesses in the community
2. Research cost of production in your area compared to other areas of your state/country
3. Compare the role of women in operating agricultural businesses over time
4. Research the amount of a consumer's dollar that reaches the farmer in various commodities
5. Shadow an agriculture banker or loan officer
6. Assist other students in applying for youth loans
7. Create a 10-minute presentation for other FFA members about careers in agribusiness
8. Find two articles each week about the economics of the agricultural industry
9. Create ad promotion for local food products on chapter website
10. Create classroom activities
11. Create digital video programs about FFA
12. Create and produce a weekly television or radio show about FFA and agriculture
13. Maintain the chapter web page
14. Volunteer to design a webpage for a local agriculture group
15. Create a brochure about common houseplant diseases and how to care for them
16. Take pictures and make a CD for plant and insect identification
17. Staff FFA displays that have farm animals at county and state fairs