Grant Proposal Project

Grant Proposal Option 1:

- The Santa Cruz County Secondary Education Coalition is awarding $5,000 grants
  - The SCCSEC would like to provide educational STEM projects for 6-week summer programs aimed at select students in grades 9-12.
  - These projects are to be in the form of distributable “kits” containing the instructions and material components necessary for a hands-on project meant to demonstrate or explore a particular STEM concept.
  - Projects are to be designed and assembled by local undergraduate STEM majors at UCSC and Cabrillo College, and paid for by an SCCSEC grant not to exceed $5,000 per project.
  - Chosen projects will be carried out by high school students under the supervision of accredited High School instructors with specializations in your chosen field (or a related field).

Project topics (for Grant Option 1)

- You can take one of many different approaches towards your project:
  - Examples:
    - Create an autonomous task-oriented robot
    - Build a motion-detection alarm using a breadboard
    - Create an Arduino-driven LED text display
    - DNA amplification with miniPCR
- Your project should make use of your engineering or lab research experience
- You do not need to carry out this project, but you will need to design it

Project scope (Grant Option 1)

- While your project is designed to be used as part of a six-week class, it will not be the only subject taught in the class.
  - Your project can take any amount of time between one and six weeks.

Assignment requirements (Grant Option 1):

- Complete the grant application form and submit a printout of the forms
  - SCCSEC_GrantProposalApplication.docx
- Complete each section

- Adhere to the application format
  - You must fit your text into the required format
  - Do not remove prompts or change section headings

Grant Proposal Option 2:

- Your college (Cowell, Porter, Rachel Carson, etc.) may offer students funds for student projects.
  - This is real. If your college does offer money, there may still be time to apply for it.

- You are working on a senior design project to complete your Engineering major
  - You'd rather someone else pay for parts and equipment, if possible
  - Make a case for your project

Assignment Requirements (Grant Option 2)

- Look up available "Student Project Funds" offers for your College.
- Examples:
  - Cowell: http://cowell.ucsc.edu/academics/cowell-project.html
  - Stevenson: http://stevenson.ucsc.edu/academics/scholarships/
  - Crown: http://crown.ucsc.edu/academics/fellowships-grants/student-project-funds.htm
- If your college does not offer such funds, you may pretend to belong to a different college for the purposes of this assignment.
- Because of the requirements for this assignment, your grant proposal will likely be longer than the requested page length from your college.
- You will not be using the same document template as Grant Option 1, but you should look at it to see what is roughly expected.

Required Content (for both Options)

- Average length tends to be 8-10 pages, including:
  - Cover page
  - Title/Project Summary
  - Problem Statement
  - Methods
  - Expected Deliverables
  - Timeline
  - Itemized Budget and Justification
  - Relevant Experience
  - References

Formatting Advice

- Keep application as clean and clear as possible

- Keep sections headings attached to their corresponding prompts and text boxes

Special consideration: Your budget

- Your involvement is unpaid
- Any equipment purchased with the grant money but not part of the deliverables will become property of UCSC
- Material costs are appropriate, but your requests should be reasonable
  - Specify these costs in your itemized budget

Budget example

Costs

Part	Supplier	Unit Price	Quantity	Total Cost
Motors				
DC Motors	Pololu	$25	2	$50
H-Bridge	Digikey	$15	1	$15
Servo	Pololu	$25	1	$25
Electrical & Control				
Microcontroller	Digikey	$20	1	$20
Radio	Digikey	$30	1	$30
Batteries	Sparkfun	$15	2	$30
Step-up Voltage Regulator	Digikey	$15	1	$15
Integrated Battery Charger	Sparkfun	$6	1	$6
Sensors				
Magnetometer	Pololu	$20	1	$20
IR Sensors	Digikey	$5	4	$20
Sonar	Pololu	$35	1	$35
Wheel Encoder	Pololu	$30	1	$30
Thermal Sensor	Sparkfun	$30	1	$30
Materials & Physical Components				
Building Materials	McMaster-Carr	$20	1	$20
Wheels	Pololu	$8	2	$16
Casters	Pololu	$3	2	$6
Discrete Components	Digikey	$25	1	$25
Subtotal (Each robot)				$393
Total (×4 robots)				**$1572**
One-time Costs				
Devkit for Microcontroller & Radio	Digikey	$200	1	$200
Prototype PCB Batch	APC	$100	3	$300
Maze Building Materials	The Home Depot	$100	1	$100
Spare Microcontroller	Digikey	$20	2	$40
				Grand Total: $2212

Table 1 – Summary of Proposed Costs for the A.H.M Project - April 5th, 2011

Budget Justification

- Justify each major budget item

- What counts as a major budget item?
  - If your project requires buying a dozen 29-cent LEDs, you likely don't need to explain the choice

  - If your project requires that you buy a 4000 watt generator, you should explain why you need a generator of this size

  - Simply put, any part of your budget that might appear overpriced or unnecessary requires explanation

Expected Deliverables

- Describe what you plan to hand over at the end of the project, including:
  - An inventory of what items will go in the kit.
  - An overview of your proposed teaching plan
    - This may include a proposed timeline, but this is not the same as your own development timeline.

Timeline

- This is your plan for developing and testing your kit.

- Do not confuse it with the proposed timeline a teacher would use with the lesson plan.

Timeline example

Month	Project Goal	Related Objective	Activity	Expected Completion Date	Person Responsible
1	Enhance understanding of the need for ADM and other health services among juvenile detainees as they age.	Assess ADM service needs.	Retain subjects for the longitudinal study.	Ongoing	Associate Director Mary Jones
1		Conduct 6- and 8-year follow-up interviews.	Conduct 300 follow-up interviews	Ongoing	Associate Director John Brown
1		Submit papers on the development of disorders over time.	Prepare one paper on the development of single disorders from baseline to the three-year follow-up interview.	Month 5	Project Director Jane Smith
4			Prepare a second paper on comorbidity as youth age.	Month 12	Project Director Jane Smith
1	Enhance understanding of the extent to which juvenile detainees receive services and experience barriers to services over time.	Assess if and when juveniles who need ADM services receive them after their cases reach disposition (whether they are in the community or incarcerated) and from which sectors: mental health, juvenile justice/adult corrections, child welfare, etc.	Prepare paper on longitudinal service utilization and predictors of service utilization among detainees three years after their baseline interview.	Month 5	Project Director Jane Smith
1		Examine perceived barriers to care.	Prepare paper on barriers to services among detainees three years after their baseline interview.	Month 3	Project Director Jane Smith

Relevant Experience

- Briefly explain your qualifications to carry out this project
  - Programming experience, lab experience, etc.
  - Relevant job experience
  - Major, relevant course projects and general coursework

References

- Is your project based on someone else's work or research?
  - Cite their contribution