



CAPSTONE Marketplace PROJECT PROPOSAL INSTRUCTIONS

GENERAL INFORMATION

The System Engineering Research Center’s (SERC) Capstone Marketplace has posted a new announcement for university senior design teams, “2018-2019 Research Topics” on the www.capstonemarketplace.org website. Academic institutions intending to pursue a SERC award for their students are encouraged to submit an “Expression of Interest” (EOI) to SERC, using the template on the website. After SERC’s receipt of an “Expression of Interest”, a Request For Proposal (RFP) may be sent to the university. Proposal formats are outlined in this document. Proposals will be evaluated and awards announced as rapidly as possible, commencing August 2018. SERC intends to review and make its awards for the upcoming academic year by late September. Exceptions to this schedule may be made on request. Additional Research Topics from Capstone sponsors may be announced on the website at any time.

ELIGIBILITY

Proposals may now be accepted from non-SERC universities, as well as from SERC consortium members. SERC may now award Capstone Marketplace Contracts to any U.S. educational institution, with ABET accreditation, conducting undergraduate engineering design projects.

REQUEST FOR EXPRESSIONS OF INTEREST (EOI)

Universities start their participation in the award process by submitting an Expression of Interest through the Capstone Marketplace website. A fillable template is available on the website in the “Process” section). Information is requested as follows:

- a) Name of University: _____
- b) Problem Code: _____
- c) Problem Short Title: _____
- d) Faculty Advisor(s): _____
- e) Academic Department(s): _____

- f) Contact Information
(email and phone number): _____

- g) Comments: _____

RFP and PROJECT PROPOSALS

SERC Capstone Marketplace will issue “Requests For Proposal” based on Expressions Of Interest received, and government sponsor priorities. After receipt of a Request For Proposal, universities will have access to additional information on the Research Topic, including detailed problem descriptions, background information, and government points of contact. SERC anticipates that universities will conduct two semesters of student Capstone Project activity, although one (1) semester projects will also be considered. Universities and their Principal Investigators are requested to submit project proposals to SERC as early as possible. Proposals shall include a budget and a schedule showing project milestones. An example schedule of milestones and deliverables would include:

- Kickoff Meeting
- 1st Semester Interim Design Review
- 2nd Semester Interim Design Review
- Final Project Review with Deliverables: Prototypes, Demonstrations, Final Report

The Project Description should not exceed three (3) pages in length. The Project Information Sheet and Budget sections do not count against this limit. Proposal formats are provided in this document. The use of streamlined “System Engineering” techniques for Capstone Project team efforts are important and the proposer’s intentions in this regard will be a factor in the selection process. Please refer to “SERC Capstone Marketplace Objectives 2018” in the “Resources” section of the website.

PROPOSAL SUBMISSION

Proposals may be submitted at any time after RFP. Early proposals are encouraged and proposals made in advance of student team assignments are acceptable. Proposals must be submitted electronically to capstonemarketplace@stevens.edu. Attachments should be in MS Office or PDF formats. Proposers are strongly encouraged to include “Proposal for (Short Title of Research Topic)” in their subject line, and to request a “read receipt” on submission. Universities may submit multiple proposals, but only on different Research Topics.

CONTRACT FORM

SERC will award Firm Fixed Price contracts to universities. Other forms of contracts may be entered into at SERC’s discretion.

AWARDS AND FUNDING

SERC awards to universities proposing Capstone Projects will normally be made in amounts up to \$5000, for a total of two semesters of student design activity, with appropriate budget justifications. In exceptional circumstances, awards of up to \$10,000 may be made. Contracts shall include milestone payments. Universities will be able to invoice SERC after the successful completion of each milestone. A typical schedule of milestones might include:

- Completion of Kickoff Meeting with Customer, and presentation of written Project Plan
- End of 1st Semester Interim Design Review
- 2nd Semester Interim Design Review
- Final Deliverables, Demonstrations, Final Report and Presentations

ADDITIONAL NOTES ON SELECTION AND AWARD PROCESS

1. Universities must have a current Capstone Marketplace account. Instructions for joining the website are available on www.capstonemarketplace.org.
2. Capstone Marketplace “Research Topics” are posted on the website. This list contains Problem “Numeric Designators” and “Short Titles” (for Example: “2018 NSW 04 Underwater Communications and Navigation”), as well as a paragraph “Problem Description”. All problems have been submitted to SERC by government organizations using a standardized Problem Nomination Worksheet form. This worksheet includes background, previous research efforts, government “customer” expectations for project outcomes, and Points of Contact. These problem worksheets will be made available to universities who have submitted Expressions of Interest.
3. The Capstone Research Topic list will be regularly updated to show changes, and any new information regarding proposal requests and awards. Additional Capstone problems may be posted as government sponsorship and participation increases.
4. Proposals will be evaluated by SERC and government representatives. Considerations will include:
 - a. Methods and approaches for guiding student teams in effective design processes
 - b. Faculty involvement and support of Capstone teams
 - c. University resources, labs and other facilities, equipment
 - d. Previous research which may apply
 - e. Alignment with SERC “Capstone Marketplace Objectives”
 - f. Past performance on Capstone projects
5. Awards will be announced as rapidly as possible, to facilitate the start of fall semester academic activities. SERC intends to complete 2018-2019 awards by the end of September 2018. Awards may not be made against all “Research Topics” or proposals submitted; the scope of awards will depend on the number of respondents, government sponsor interests, and funds available.
6. SERC awards are to support undergraduate student design activities, and are not intended to fund professional academic or research staff.

POST AWARD

Capstone student teams will have government organizations and Subject Matter Experts as their “customers”. SERC’s “Capstone Marketplace Objectives”, referenced on the website, document SERC’s concepts for teams’ and academic advisors’ relationships with government organizations. Student teams will be expected to execute their activities in a manner typical of small industry research and development businesses. An early deliverable for teams under a SERC Capstone contract should be a Project Plan. This document is to be negotiated between the student team and the government “customer” and presented by the students at a “Kickoff” meeting or first design review. The plan should include a description of:

- a. Statement of Work, including Objectives and Deliverables
- b. Project Organization (students and “customers”)
- c. Facilities and Equipment

- d. Schedules and Reporting Plan, including basic development activity and milestones
- e. Budgets and Spend Plan
- f. Intellectual Property
- g. Closeout Plan for Project

CAPSTONE MARKETPLACE PROPOSAL

I. PROJECT INFORMATION SHEET:

- a) University Name: _____
- b) Research Topic: _____
- c) Faculty Advisor(s): _____
- d) Academic Department(s): _____

- e) Contact Information.
Include Academic and
University Business Office contacts: _____

- f) Project Period: _____

- g) Project Team Name (if known): _____

- h) Requested Amount: _____

- i) Additional Comments: _____

SERC CAPSTONE – PROJECT REVIEW COMMITTEE USE ONLY

Date Submitted: _____ Date Reviewed: _____

Approved: Yes ___ No ___ Amount Funded: _____

II. PROJECT DESCRIPTION (3 pages max)

Description should include the following:

- a) **Project Title**
- b) **Executive Summary** (very brief description of planned Capstone efforts)
- c) **Organization**
 - i. Faculty supporting Capstone Project
- d) **Project Execution** (Proposals may be prepared in advance of student team assignments; please provide general descriptions of how the design team will be guided for the project duration. The Capstone Marketplace web document “SERC Capstone Marketplace Objectives” lists desired project team attributes)
 - i. Activities
 - ii. Milestones
 - iii. Schedules
 - iv. Status and Reporting, including proposed cost, schedule, performance reviews of Project Team activity
- e) University Facilities, Equipment, other resources available to Capstone Project
- f) Previous Research applicable to Capstone Project
- g) Relationships with government or other organizations relevant to Project
- h) Literature cited

III. BUDGET

Budget Category	Amount Requested
1. Project Materials (including tools and non-capital equipment)	
2. Services (machining, copying, etc.)	
3. Travel	
4. Publications, periodicals, etc. (literature relevant to the project)	
5. Other	
6. Special use supplies or items	
Total	

BUDGET JUSTIFICATIONS (please provide amplifying information as available)

1. **Project Materials** (A general list of projected materials should be included here.)

2. **Services**

3. **Travel** (Anticipated travel must be limited and clearly justified.)

4. **Publications**

5. **Other**

6. **Special use supplies or items. Examples may include:**

- a. Computer hardware and software not provided by the university
- b. Laboratory and shop equipment

Special use supplies will require compelling justification. Universities will normally be expected to contribute such supplies as part of their collaborative support to Capstone teams.

7. **Status and Residuals**

Universities shall include in their proposal, brief descriptions of how they will manage Capstone funds. Contracts will be Firm Fixed Price awards with milestone payments. Project reviews will generally be milestone deliverables under the contract. Universities must state their intended disposition of any residual monies at the conclusion of Capstone Project work.

8. **Restrictions on the use of SERC funds. Capstone project funds are not allowed for:**

- a. Purchase of capital equipment (purchase of durable items with a cost of \$5000 or more will require special permission)
- b. Personal items (t shirts, banners, apparel, etc)
- c. Personal computer hardware, software, and other IT support not required for a Capstone Project
- d. Books, magazines, periodicals, subscriptions, other reference material not required for Capstone Project execution
- e. Meals, subsistence, entertainment. (Travel and lodging, meals, subsistence expenses are authorized in performance of Capstone project work only, and shall comply with GSA regulations)
- f. Personal travel not required for Capstone work