

Date

Academic Inputs for Capstone Marketplace Research Topics

Proposed Title of Research Topic:

Institution:

Point Of Contact (please include phone and email):

1. Statement of the Concept or Idea:

(Inclusion of a Quad Chart is recommended—see website for formats)

2. Application-- What is the utility of the proposed solution? What need will it fulfill, what problem does it solve, and who will benefit?

- a. Describe the need or problem in a clear, concise manner. Explain how the development would be used, and who are likely to benefit?

3. Proposed Approach:

- a. Provide a short explanation of proposed research, particulars of team organization, technical and scientific expertise, institutional facilities, previous work, etc.

4. Proposed Outcomes:

- a. Describe proposed project outcomes and deliverables—tests, demonstrations, prototypes, etc.

5. Intellectual Property notes:

- a. Intellectual Property rules for Capstone Marketplace research contracts follow government FAR regulations. Generally, the U.S. Government reserves rights to use government funded developments without royalties.
- b. Any university submitting a Proposed Research Topic which attracts the interest of any government client in the Capstone program will receive a Request For Proposal

from the Marketplace. On receipt of an acceptable research proposal, and with funds permitting, the originating university will receive a Capstone award.

- c. A Capstone award may not be exclusive; the government reserves the right to engage with additional universities on any research topic. Intellectual rights of each institution shall remain separate unless otherwise agreed, such as in the case of two or more universities teamed on a single project.

6. Other Notes:

- a. **Participation.** Capstone Marketplace projects are academic efforts by small teams of senior undergraduate students in engineering and other university departments. Teams may include other undergraduates or grad students on an exceptional basis.
- b. **Customers.** Government Clients will be the “customers” for the student teams. These customers will be expected to:
 - i. Have Subject Matter Experts available for periodic contact for questions and advice
 - ii. Review students’ project plans at the beginning of the academic year
 - iii. Participate in 2-3 design reviews during the year as the customer
 - iv. Participate in the final presentations, demonstrations, and deliverables
- c. **Matching Customer Expectations.** It’s important to manage expectations with any potential government customers. Some issues arising in previous Capstones are discussed below:
 - i. The projects must have academic value to students and to their institutions. Analytic rigor in students’ development processes will be important.
 - ii. The exercise of good system engineering techniques need to be part of the Capstone experience.
 - iii. Time and material resources are limited in comparison with industry and government R&D efforts. It’s important your government customers understand this.
 - iv. Projects are paced according to academic schedules. Two semester projects are typical.
 - v. Coordination has to be done with government customers so that Subject Matter Experts and student teams can communicate efficiently and with a minimum demand on government time.
 - vi. Not all projects are “home runs”. Students must be allowed to learn, and sometimes “learning by failure” is necessary.
- d. **ITAR.** Capstone projects are generally **open to all students at a particular university**. As a general rule, no classified or export controlled information can be exchanged with universities, with the exception of Service Academies. Although not typical or desirable, some project material or information may fall under ITAR sensitive or “Export Controlled” restrictions. These instances will be addressed on a case-by-case basis.

- e. **Publication.** Government sponsors are responsible for specifying any restrictions on dissemination of information on their Capstone projects. In most cases, project information which has been stripped of personal information (names, emails, etc.) can be made “public” after approval for release from government sponsors.