



SPONSORED CAPSTONE PROJECT GUIDELINES

PARTICIPATION OF STUDENTS AND SPONSORS IN NJIT'S NEWARK COLLEGE OF ENGINEERING CAPSTONE PROJECTS

The Capstone Project at the New Jersey Institute of Technology (NJIT) is an educational program facilitated by the Newark College of Engineering. It is performed in student teams, guided by a faculty member or a member of the NJIT staff. Students apply engineering strategies and fundamental knowledge acquired during their studies at NJIT to practical problems (Capstone Project). Thus, the Capstone Project aims to offer a rewarding real-world learning experience for the students of the team. To the extent possible, NJIT would like Capstone student groups to work on industry-initiated challenges and provide cost-effective assistance to industrial sponsors (Sponsors) of the Capstone Projects.

About the Project

1. The Capstone Project is an educational program offered by the Newark College of Engineering at NJIT (NCE). It is a graded course (or courses, depending on the program). All engineering students are required to participate. Work on the Capstone Project is performed in teams.
2. To the extent possible, NJIT wants Capstone student teams to work on industry-initiated challenges sponsored by industrial sponsors and provide the Sponsors with cost-effective and efficient designs addressing the Sponsors' needs.
3. The students are supervised by a Capstone Facilitator – an NJIT professor or (less common) a member of the NJIT staff. S/he is responsible for providing guidance to the teams, meet with the team regularly, provide advice and assistance, and be responsible for assessment of the team's effort and grading. When a Sponsor is available, the Capstone Facilitator also participates in discussions on the Capstone Project's Statement of Work (SOW) and helps maintain the ongoing communication between the team and the Sponsor during the implementation of the Capstone Project.
4. The team students will use their educational background, experience, and Capstone course training to complete the Sponsor-proposed Capstone Project and provide a practical working solution. It is understood, however, that the students are not yet seasoned professionals, and that they will provide their best effort within their education and abilities, with no guarantees for success. While every effort will be made to provide a technical solution that meets the Sponsor's needs and is ready for further implementation and deployment by the Sponsor, NJIT specifically disclaims all warranties or representations, either express or implied, including without limitation that any deliverable does not infringe on any patent, copyright, or trademark.
5. Students will work as structured teams within an academic course time frame on a pre-approved Capstone Project relevant to their field of education. They shall submit course and Capstone Project deliverables to the Capstone Facilitator and the Sponsor as required and agreed-upon in the SOW, which will be developed cooperatively between the industrial Sponsor and the team, based on the Sponsor's first draft of the Capstone Project specifications. Every member of the student team is expected to dedicate an average of nine (9) hours per week for the Capstone Project, in addition to class meetings and other responsibilities.



6. The Capstone Facilitator will guide the team to fulfill the SOW. Guidance will be provided in periodic meetings with the design team (face-to-face, or using electronic communication). The Capstone Facilitator may give the team members reading material and literature-review assignments as well as help with carrying out the Capstone Project's tasks.
7. The Capstone Facilitator will use his/her best efforts to steer the Capstone Project team toward successful fulfillment of the SOW, and resolve issues arising during the implementation of the technical solution for the Capstone Project.

Preparation of a SOW

8. The Sponsor will define the technical problem/challenge s/he wants the Capstone student group to address (NJIT will provide a portal for submission of proposed Capstone Projects and for communication with Capstone Facilitators). If the Capstone Project appears to be a good fit to the background and abilities of an NJIT Capstone team, the Capstone Facilitator will invite the Sponsor to discuss the technical details with the Capstone Facilitator and potential project teams. The Sponsor, along with the Capstone Coordinator and the student team (if one was already formed), will produce a mutually agreeable SOW with a timeline, milestones, deliverables, and a budget. NJIT will offer a sample SOW to assist with the process. The Capstone Coordinator will ensure that the SOW is approved by the requisite officials of NJIT if special features/commitments are included.
9. The budget, which is part of the SOW, would clearly separate expenses paid by NJIT, by the team's students, and by the Sponsor. The budget is not intended to be a payment for service but rather a shared responsibility among all Capstone sponsors in support to the educational experience offered to NCE students.
10. The SOW will include a description of expected access of the student team to the Sponsor's facilities (if any), and the related arrangements (including work with the Sponsor's personnel). It will also describe planned support of the team by the Sponsor in terms of data; documentation; parts, modules and other hardware; consumables; software; computing hardware; access to special facilities and equipment; and other provisions needed to conduct the Capstone Project work. The SOW will also define how the team and the Sponsor communicate, and at what frequency. At a minimum, two meetings between the Sponsor and the student team are recommended per semester.
11. Support of the student team by the Sponsor shall not include wages or other compensation for time and labor expended by the students or the Capstone Facilitator. Reimbursement for out-of-pocket incidental expenses of the students, such as transportation of the students to the Sponsor's site or travel of the students to a Sponsor field test are allowed.
12. The Statement of Work will include an Appendix describing CONFIDENTIALITY requirements.
 - a. The Sponsor shall disclose information needed to discharge the Capstone Project and will identify clearly such information that is propriety and is not to be disclosed outside the Capstone Project team.
 - b. Sponsor proprietary information, methods and plans are expected in general to be confidential. However, confidentiality requirements shall not be over-expansive to the point that they preclude the team students from preparing and presenting publicly a technical report



on the Capstone Project, or from submitting a final Capstone Project report that would allow NJIT to assess the content, scope and quality of the students' work.

13. INTELLECTUAL PROPERTY

- a. All student or Capstone Facilitator inventions resulting from the performance of the Capstone Project, including data, software, or the like, that are intrinsic to and derived from Sponsor's proprietary materials or information shall belong solely (100%) to Sponsor.
- b. If, during the discharge of the Capstone Project, a student participant and/or the Capstone Facilitator invents a technology that is non-intrinsic to, nor derived from Sponsor's propriety information, the rights to the technology shall vest solely with NJIT in accordance with NJIT's official Intellectual Property Policy.
- c. If, during the discharge of the Capstone Project, a student participant in the Capstone Project and/or the Capstone Facilitator and an employee of the Sponsor invent jointly a technology that is non-intrinsic to, nor derived from the Sponsor's propriety information, the rights to the technology shall be jointly owned (50/50) by the Sponsor and NJIT.

14. The SOW will define how physical prototypes and hardware created in the course of the Capstone Project are disposed at the end of the Capstone Project.

15. The SOW will be signed by the representative of the Sponsor and a representative of NJIT. This Guidelines document will be made part of the SOW as an Appendix of the SOW.

Other Considerations

16. All participants in the Capstone Project are expected to adhere to professional and behavioral norms that are in line with the law, with common standards of professional behavior, and with the conduct codes that were adopted by their home organizations (be that the student's university or the Sponsor's company). Specifically, NJIT students are bound by the NJIT Code of Student Conduct.

- a. To resolve questions or issues that have not been addressed by existing conduct codes, Capstone Project participants are directed to the NSPE Code of Ethics (<https://www.nspe.org/resources/ethics/code-ethics>) and to the Ethics Office of their organization (for NJIT employees at: <http://www5.njit.edu/ethics/ethics-njit/>).
- b. Teams are barred from requesting samples from manufacturers of integrated circuits and other devices and subsystems, unless the students disclose that the request is made by an undergraduate design team and explain its purpose. It is unethical to build a prototype from multiple samples requested from manufacturers under the guise of testing these samples for a future purchase, if this is not the case.

17. The Sponsor agrees that NJIT shall not be liable for any third party claims arising out of Sponsor's use of the Capstone Project deliverables and Sponsor will hold NJIT harmless against the same.



18. Sponsor or NJIT may terminate the Capstone Project relationship between the two upon four (4) weeks prior written notice. However, both Sponsor and NJIT will use their best efforts to complete all Capstone Projects that they have commenced.
19. The Capstone Project formally concludes at the completion of an NJIT academic semester. However, students and Sponsors may choose to continue their relationship voluntarily, based on a mutual agreement. NJIT encourages Sponsors to hire student team members, upon their graduation, as members of the technical staff of their organizations.

Name of Corporate Sponsor

**Printed Name of the Corporate Sponsor Representative
Facilitating Sponsor's Participation in the NJIT
Capstone Project**

Title of Sponsor Representative

Signature

Date