



Team Tech Competition

Submission Instructions

Submission Deadline: Initial Proposal, January 15

Team Tech Award Coordinator
Shaunna Winton & Kathleen Prom
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General Information

The Society of Women Engineers welcomes participation in the Team Tech Competition. All submissions throughout the year are to be submitted **via email** directly to the **Team Tech Awards Coordinator**.

The Initial Proposal deadline is **January 15**. The top teams will present their projects at the Society of Women Engineers Annual Conference. Recognition for the winning teams will be presented during the Celebrate SWE! Awards event.

Specific questions concerning the Team Tech Competition can be directed to Shaunna Winton or Kathleen Prom at TeamTech@swe.org.

TEAM TECH COMPETITION CRITERIA

The Team Tech Competition is a collegiate competition designed to emphasize the key role of teamwork and interface with industry in the engineering education process. The competition could be one of the most exciting, challenging, and rewarding endeavors in your college experience.

The Boeing Company sponsors the Team Tech Collegiate Competition, which was established in 1992.

Up to ten (10) teams will be sponsored to compete at the SWE Annual Conference in October/November, where a panel of judges will review oral presentations along with previously submitted team reports. Team Tech Competition winners will be recognized at the Celebrate SWE! Banquet and will receive:

- 1st Place \$5,000 (\$400 per team member; remaining funds donated to sponsoring SWE Student Section)
- 2nd Place \$2,500 (\$200 per team member; remaining funds donated to sponsoring SWE Student Section)
- 3rd Place \$1,250 (\$100 per team member; remaining funds donated to sponsoring SWE Student Section)

In a given year, more than ten (10) teams may submit proposals. If there are more than ten (10) teams that submit final reports and meet all the competition requirements, a down select process will be conducted.

Eligibility

The qualifications for each team entering the Team Tech competition are:

- Teams shall consist of 4 to 12 students (12 total throughout the current year project)
- Over 50% of the team shall consist of active SWE members
- Team members shall represent a minimum of three (3) different engineering disciplines
- Teams shall be composed of undergraduates (including December graduates of that fiscal year). A maximum of one (1) graduate student will also be allowed.
- Each team member is limited to giving \$100 toward the project (preferably \$0). Instead, we encourage the team to solicit In-Kind contributions and conference expenses support from the company they are working with or their SWE section.

Timeline

September – December	<ul style="list-style-type: none">• Form team, identify company and an industrial advisor to work with, and identify project
January 15	<ul style="list-style-type: none">• Submit Initial Proposal Package
March 15	<ul style="list-style-type: none">• Submit Interim Industrial Advisor Evaluation Report• Submit Team Progress Report• Submit Design Document
June 1	<ul style="list-style-type: none">• Submit Final Report• Submit Final Industrial Advisor Evaluation Report• Submit Draft Presentation
August/September	<ul style="list-style-type: none">• Down select process as required (if more than ten (10) teams)
October/November	<ul style="list-style-type: none">• Finalists compete by presenting their projects at the SWE Annual Conference

Judging Basis

Judging will be based on team reports, industrial advisor evaluations and oral presentations. Teams are evaluated in the following five areas:

1. Ability of the team to work together,
2. Use of engineering processes,
3. Product,
4. The quality of the results, and
5. The ability of the team to work with industry.

GUIDELINES

Step 1: Form Team, Identify Company partner and an Industrial Advisor, and Identify Project (September – December)

Identifying your team, company or industrial partner, an Industrial Advisor to act as coach, and a project the sponsoring company can benefit from is the key to success. The qualifications for the team are:

- Teams shall consist of 4 to 12 students.
- A majority (over 50%) of the team shall be active members of SWE.
- There shall be a minimum of 3 different engineering disciplines represented by the team members.
- Teams shall be composed of undergraduates (including December graduates of that school year). One (1) graduate student will be allowed.
- Each team member is limited to giving \$100 toward the project (preferably \$0). Instead, we encourage the team to solicit In-Kind contributions and conference expenses support from the company they are working with or their SWE section.

When selecting your team consider people who can work together, are dedicated to the project, and can directly contribute to the technical success of your project.

Identifying the company or industrial partner involves investigating established company relationships that exist with your school, or approaching a new company that interests the team. For schools that are located in areas with limited Industrial development, previous teams have met with success by working with government or public works agencies (i.e. water, sewer districts).

Once you've identified a company or several potential companies to further pursue – work with them in identifying a project that they would be interested in sponsoring, and your team would be interested in doing. You should consider the following items for the project: Can you accomplish this project start to finish within approximately a 6-month period of time? Does it provide hands-on experience? Are the resources available through the company or your school for you to deliver an end product? Does it have the potential to offer a positive return to the company? Is it applicable to a number of engineering disciplines?

Here are some winning Project ideas from previous years:

- Design and development of an alternative manufacturing process for automotive wheel deburring (University of Kentucky and Alumitech)
- Design and prototype a window that changes from clear to translucent (Iowa State University and Pella Windows)
- Design of a cellular phone for people with limited dexterity (University of Illinois-Urbana Champaign and Motorola)
- Development of an ozonation water treatment system for Pseudomonas growth (University of South Florida and Dunedin Water Plant)
- Design of an ergonomically improved cashier workstation (Louisiana State University and Delchamps, Piggly Wiggly, and Super Fresh)

The role of the Industrial Advisor is to provide your team assistance (a sounding board) in identifying or working with a company, and coaching you in the progress of your project. It can be an advisor from your school, a willing SWE member from a local section, or an interested employee from the sponsoring company. They should be willing to:

- Provide assistance in helping the team select a project
- Provide counseling on team membership, project plan, and ideas on interfacing with industry
- Submit an interim evaluation – due March 15
- Submit a final evaluation – due June 1
- Assist the team in preparing a final presentation and making travel arrangements to the SWE Annual Conference - October.

They can be a first tier resource in questions such as: advice on proper engineering process, overcoming stumbling blocks, how to interface with industry in soliciting financial support, writing the progress or final report, etc. Their experience can serve as a coaching mechanism to speed the team's learning process along.

Step 2: Submit Initial Proposal Package (January 15)

The Project Initial Proposal Package must be submitted to the Team Tech Award Coordinator any time after September 1, but no later than January 15. (Form A)

The Initial Proposal Package includes:

- Preliminary team roster, Industrial Advisor, and proposed Industry Sponsors
- Proposed team project
- Major project milestones and deliverables
- Estimated team labor
- Estimated budget (including projected source of funds)

All Teams and candidate projects will be evaluated against the qualifications. Approval or specific suggestions to gain approval will be returned to you within one month of your application.

Do not wait until you get approval to proceed, as you now have about 5 months to complete your project. During that time, your team will be responsible for submitting a design document and both you and your Industrial Advisor will be responsible for submitting a report.

Step 3: Submit Interim Advisor Evaluation Report, Team Progress Report, and Design Document (March 15)

The Interim Industrial Advisor Evaluation Report, Team Progress Report, and Design Document must be submitted to the Team Tech Award Coordinator by March 15. See Forms B and C.

Interim Industrial Advisor Evaluation Report includes the following: (Note that this should be fully shared with the team to assist them in receiving performance feedback, making appropriate corrections, and improving performance for the final report):

- Ability of the Team to Work Together – roles, relationships, obstacles
- Use of engineering processes – processes used, resulting benefit, alternatives considered
- Product – Accomplishments, schedule performance, re-planning
- Quality of the Results – team learning and experiences, positive return to company or society
- Ability of the Team to work with Industry – Industrial contacts, building relationships

Team Progress Report (not to exceed 5 pages) includes:

- Final team roster, including industrial partners
- Target market or purpose of the project
- Schedule status (based on original milestones and deliverables)
- Updated Budget and labor estimates

Team Design Document should include:

- List of requirements you are trying to satisfy and project constraints issued by the company.
- A proposed design description that meets those requirements
- Any design diagrams/graphics describing the design
- Any requirements or design analysis results supporting your proposed design

When emailing the Progress Reports and Design Document ensure the total file size of the attached documents does not exceed about 8MB. Note that files sizes may be reduced by compressing photos.

Step 4: Submit Final Report and Final Industrial Advisor Evaluation (June 1)

It is now time for both you and your Industrial Advisor to summarize your team's results, as well as select a presenter for your presentation should you attend the SWE Annual Conference. The Industrial Advisor final evaluation, Team Final Report, and Presenter Travel Information must be submitted to your SWE Team Tech Award Coordinator by June 1 (see [Forms D, E, and F](#)) along with a draft copy of the presentation.

Industrial Advisor final evaluation report includes (this should be fully shared with the team to assist them in receiving performance feedback, making final adjustments for the team presentation at Conference):

- Ability of the Team to Work Together – roles, relationships, obstacles
- Use of engineering processes – processes used, resulting benefit, alternatives considered
- Product – Accomplishments, schedule performance, re-planning
- Quality of the Results – team learning and experiences, positive return to company or society
- Ability of the Team to work with Industry – Industrial contacts, building relationships

Team final report (not to exceed 10 pages) includes:

- Executive summary (1 paragraph) of project and results
- Any changes in team roster and industrial partners
- Project Results - Success or failure and why
- Lessons Learned - What would you do different next time
- Final schedule and budget

Team Presenter Travel Information includes name, and email addresses for contacting presenter at school or during summer break.

Again, when emailing the Final Reports ensure the total file size of the attached documents does not exceed about 8MB. Note that files sizes may be reduced by compressing photos.

A maximum of ten (10) teams will proceed to the Annual Conference competition. You will be notified of final selection and arrangements by September 15th (approximately one month prior to the Annual Conference).

Step 5: Finalists compete by presenting their projects at the SWE Annual Conference (October/November)

The competition involves preparing and giving a final presentation. Your Industrial Advisor can assist your team in helping select the presenter, preparing the final presentation, and even critiquing the result.

Each competing team will be reimbursed travel costs (airfare or mileage fares) for the selected presenter only. Registration, hotel, and meal expenses, as well as travel for additional members of the team are the responsibility of each team. In line with our competition goals of interfacing with industry, we are asking teams to use their industrial contacts to solicit support for those expenditures. Again, look to your Industrial Advisor and Industrial Supporters to provide valuable assistance in helping you obtain financial support.

Ideally, travel arrangements should be made such that the presenter can attend the practice session (Thursday morning), the final competition (Friday morning), and the Celebrate SWE banquet (Saturday evening – paid event).

Instructions for reimbursement of travel costs, based on the current SWE reimbursement process, will be provided to each team by the Team Tech Coordinator.

A Team Tech practice session and the final competition will take place at the SWE Annual Conference. Teams are highly encouraged to attend the practice session as this is an opportunity to review the facilities and equipment, dry run and time your presentation, and receive direct feedback from the Team Tech Coordinator in order to improve your presentation for the following day.

You will have 15 minutes for the presentation with 5 additional minutes allocated to answer questions from the floor. It is important to stay within those 15 minutes. Any overrun cuts into the question and answer period for the judges. Only one person is allowed to give the verbal presentation - although additional team members or school representatives are welcome to provide background support (e.g. handle PC or props, answer questions at end of presentation, etc.). The presenter is also welcome to introduce any other members that are present.

Bring your presentation on a flash drive or laptop, along with any special adapters/cables. We will provide a standard adapter cable, projector and screen; however, the hosting conference center determines the type of adapter cable provided (VGA, HDMI, etc.). You might also consider bringing some "hands-on" displays or materials for the audience (although because of Union restrictions in most cities and consideration for other presenters extra display material must be restricted to items that can be hand carried in - immediately prior to presentation). Whatever additional displays or props you bring, be aware of time constraints. You need to be able to set-up and take down in under 5 minutes (within the break time between team presentations). The practice session allows you the opportunity to work out all the bugs before the actual competition. Put together the presentation as if you were presenting it in the work environment, trying to relay the results and findings of a design and development project to management. Your Industrial Advisor can serve as a good sounding board for review of your presentation.

During the final competition a panel of judges will review your oral presentations. Your presentation will be judged on the 5 different criteria: 1) The ability of the team to work together; 2) The use of engineering processes; 3) Product; 4) The quality of the results; and 5) The ability of the team to work with industry (see following judges score sheet). You need to ensure that you address all 5 of these areas in your formal presentation. The judges are expecting to hear about all 5 areas - if they are not covered, the judges will assume you did not satisfy those requirements, and score accordingly. This cannot be expressed any stronger - COVER ALL 5 AREAS in your presentation!

Judge's Score sheet

Category and Comments	Scoring Criteria - Project Elements Team Documentation & Presentation			Score
Working Together <ul style="list-style-type: none"> Responsibility Getting along 	Good balance of responsibility ----- Team enjoys each other, conflicts resolved positively 10	Team members recognized ----- Team does what needs to get done, members cooperate 5	A few members doing all the work ----- Some discord never resolved 0	Working Together
Engineering Processes <ul style="list-style-type: none"> Plan Requirements Mgmt Lean Application Handling obstacles 	Scientific approach evident, leveraging product improvement approaches ----- Generated options when obstacles encountered 10	Plan of approach acknowledged ----- Was able to eventually find ways around obstacles 5	No clear plan ----- Obstacles not handled well 0	Engineering Processes
Product <ul style="list-style-type: none"> Communication Material organization Complexity Integration 	Clear & concise message, good continuity ----- High product complexity with integrated conclusion 10	Satisfactory message, orderly ----- Limited complexity requiring some integration 5	Disorganized message, lacks continuity ----- Narrow complexity with minimum integration 0	Product
Results <ul style="list-style-type: none"> Accomplishments Leverage replication Relative benefits Schedule performance 	Convincing, conclusion clearly supported by data ----- Project resulted in significant benefits 10	Had schedule, partially met objectives ----- Partial benefits (Industry, Society) 5	Weak conclusion, loose tie to supporting data ----- No noticeable benefits 0	Results
Industrial Interface <ul style="list-style-type: none"> Involvement Support 	Clear Industrial involvement and participation ----- Clear evidence of industry \$/material contributions 10	Industrial Partners recognized ----- Evidence of request for support 5	Industry contact never clearly established ----- No effort to solicit industry support 0	Industrial Interface

Penalties <ul style="list-style-type: none"> Presentation too long Presentation late start Documentation over size Documentation late 	Documentation Over size ----- Late entry -5 each occurrence ----- Never received -20 for each occurrence		Presentation Over 15 minutes ----- Presentation Late start -5 each occurrence	Penalties -
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RECOMMENDED PLACEMENT:	
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TOTAL SCORE: 50 points possible	
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