

## **Judging Criteria for Undergraduate Design Competition** **Biomedical Engineering Society**

All design project proposals must be submitted by BMES Design teams by **May 31, 2018**. Detailed designs will be judged by a panel of reviewers to select the six finalists. The top six BMES Student Chapter team finalists will be invited to BMES 2018 to present their results during a special session. The designs of these six finalists will be evaluated during their presentation at BMES 2018.

### **Judging criteria for Undergraduate Design Competition Abstracts – All notifications will be made by July 1<sup>st</sup>, 2018.**

1. **Product need and market potential** – How well does the design team describe and document the overall product need and the specific requirements for their device as specified by the customers? Both qualitative and quantitative requirements should be described. Has the team explained the potential market for such a device? The size and demographics of the potential market should be described, as well as a clear explanation as to why the proposed device fits the needs of that market.
2. **Device utility and novelty** – How well does the team describe their proposed design and how well it satisfies the customers' needs? Have they described the current state of art and how their product fits into or complements the existing market? What aspects of the proposed design make it especially useful and novel when compared to the existing market?
3. **Technical feasibility** – Is the proposed design based on logical and sound engineering analysis and judgment? Has the team addressed the major technical challenges and demonstrated a reasonable plan for solving them?
4. **Budget and economic plan**– Is the proposed budget for the prototype device reasonable and does the long-term economic plan for the product fit with the customer and market requirements?
5. **Writing clarity and style** – Is the five-page proposal clearly written and in an appropriate style for a BMES abstract? Is the language clear and free of grammatical and spelling errors? Are the concepts and ideas conveyed clearly and concisely to an engineering audience?

### **Judging criteria for Undergraduate Design Project Finalists presented at BMES**

1. **Product need and market potential** – How well does the team describe and document the requirements and the potential market for the device they have designed?
2. **Device description** – How well does the team describe their solution to the design problem? Does the product satisfy the specific customer requirements and a demonstrated market need in a unique way? Is the concept novel and patentable? If so, has it already been submitted for protection or are there plans to do so?
3. **Device performance** – How well does the team demonstrate the actual performance of the product? How well does the team describe the product performance compared to stated requirements and predicted capabilities? How well has the team identified limitations in the design and proposed solutions?
4. **Economic plan** – How well did the team follow the proposed budget? Is there a

reasonable plan to increase production of the device (i.e. have issues associated with mass production been addressed)? Has the team presented a reasonable economic plan for commercialization, or at least considered the major challenges in doing so?

5. **Presentation clarity and style** – Is the design project clearly delivered and the presentation made in a professional manner? Does the presenter do a good job answering questions? Are the slides clear and free of grammatical and spelling errors and the concepts and ideas conveyed concisely to an engineering audience?