

BIOMEDICAL ENGINEERING EDUCATIONAL

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Objectives.

Educational programs in biomedical engineering have been under development for >40 years. The past decade has seen a significant increase in both the number of programs and student interest in those programs. This rapid growth has fueled a movement to establish a common vision of the knowledge and skills that all biomedical engineers need to possess. A partnership between industry, biomedical engineering educators, and learning science researchers is needed to ensure that this will be a shared vision and will enable students to be well prepared for careers in this field.

Material and methods.

Study to determine the most important subsets of knowledge for various and the best methods for teaching.

Results.

Biomedical engineering is presently undergoing explosive growth. The field began when engineers partnered with physicians to develop solutions to medical problems. The discipline has now developed an identity of its own, and is moving into areas such as tissue engineering and neuroscience that are far from the original engineering roots of the field. At the same time, biomedical engineers are still making important contributions to such traditional subjects such as biomedical signal analysis, physiological modelling, and instrumentation.

Biomedical engineering (BME) is the application of engineering principles and design concepts to medicine and biology for healthcare purposes (e.g. diagnostic or therapeutic). This field seeks to close the gap between engineering and medicine: It combines the design and problem solving skills of engineering with medical and biological sciences to advance healthcare treatment, including diagnosis, monitoring, and therapy.[1]

Conclusions.

In order to confront the numerous factors that have led to the current lack of medical devices and innovative capacity in BME in the developing world a truly systemic approach must be taken. The cornerstone of this approach needs to be increasing local capacity for BME, both in terms of education and practice of the discipline. Solving the medical device dilemma will result in much-improved public health and greater global equity.

Keywords: biomedical engineering curriculum; educational programs; career preparation; professional skills

References

- [1] World Health organization Department of Essential Health Tehnologies, "Biomedical and chiminal engineering institutions and associations worldwide" WHO, Geneva, Swit zerland, 2011 [Online] Available: http://www.who.int/medical_devices/support/en/index.html.