

TECHNICAL ENGLISH FOR MECHANICAL ENGINEERS (TEME)

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TECHNICAL ENGLISH FOR
MECHANICAL ENGINEERS
(T.M.E)



مؤسسه انتشارات علمی
دانشگاه صنعتی شریف

Technical English for Mechanical Engineers

تألیف مینو عالمی، علی مقاری

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Technical English for Mechanical Engineers (TEME)

Preface

Academic textbooks vividly typify an important pedagogic genre in academic and professional settings. Additionally, academic textbooks contain a tremendous influence on academic milieu and serve as means to disseminate facts and developments in different disciplines. They can open up new avenues, and produce appealing new themes that merit a big effort. Academic textbooks usually address multiple audiences so that they link themselves to their disciplines in interesting ways, and underscore the relationship between disciplinary discourses and related social practices (Hyland, 2000).

Local educational institutions produce in-house English for Specific Purpose (ESP) materials according to the curriculum policies designated and developed by the Ministry of Higher Education in Iran. To this end, this book aims to be used in the Iranian setting at the tertiary level for undergraduate students majoring in Mechanical Engineering. Moreover, the style of English usage in this ESP textbook is American.

The features of TEME are as follows:

Presentation

The field of Mechanical Engineering and the English is too vast to have everything in one book, but has special focus on reading and

vocabulary exercises. Examining just the presentation of the language does not seem adequate since investigating how the materials are sequenced and linked to previous texts, activities, and topics seems inevitable. In this ESP textbook, the units are comprehensive since they cover almost all mechanical engineering themes and are cross-referenced. To grasp amply the meaning within a particular unit, students need to review or preview the previous units. That is to say, the content recycles continuously.

Content

Regarding the content of the textbook, it has both thematic organizations in which the topics are relevant and includes sufficient treatment of the target language areas necessary for the students. The principle organizing approach of this textbook is theme-based. In addition, the content is international and non-culture specific, which means it can be tailored much more easily. Concerning the frequency of vocabulary types, a tripartite classification of vocabulary, i.e. jargon, technical, and core, proposed by Chung and Nation (2003) was adopted in this book. The major reason found in the history of research for claiming the legitimacy of ESP has been the application of specific vocabulary. This claim can be verified by examining texts, which are of a specific nature and contain vocabulary related to the discipline in question, viz, mechanical engineering.

Methodology

With regard to methodology, TEME is learner-learning centered and activity-based, and has task-based orientation which are characteristics of special purpose language teaching in ESP. It can be claimed the methodology used in this book is communication oriented.

Reading Type

It contains sophisticated and knowledge-based texts and articles that are adapted from various resources. Nearly every unit discusses specific aspects of mechanical engineering.

Audio-visuals aids

TEME is accompanied by some clips related to the topics of the book. It also gives a good insight to the other components related to the phonological, semantic, syntactic, pragmatic, and collocation properties of the words. Moreover, its ease of navigation and an attractive, consistent, clear organization help make the reading experience a pleasant one.

Glossary

A separate glossary, as opposed to one woven throughout the text, is important for locating terms quickly and easily. This book provides an organized glossary.

Authenticity

With regard to authenticity, ESP textbooks are expected to be selected from real-life texts that are not necessarily produced for language teaching. Tasks should encourage students to process texts as they may occur in the real world.

The material offers some practical information that facilitates more effective communication in the workplace. It can also support the development of instructional materials and/or courses for non-native English speakers seeking jobs in mechanical engineering abroad. It copes at length with the target domains documented in the needs analysis and addresses the relevance of their significance for students' future job requirements. This book is recommended for a two-credit course at the sophomore or junior level Mechanical Engineering students.

It is hoped that the present book opens up important avenues for teaching of mechanical engineering as an ESP course in Iran. Like any other academic work, this book has surely some flaws and the writers will appreciate and welcome the students', instructors', and material developers' constructive suggestions.

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Dr. **Minoo Alemi** received her Ph.D. in Applied Linguistics from Allameh Tabataba'ei University in September 2012. In March 2013, with previous backgrounds in modern technology based education, she proposed the novel idea of "Robot-Assisted Language Learning (RALL)" in Iranian Secondary Education system to the National Elites Foundation, and received a Post-Doctoral Research Associate Award to collaborate and establish the Social Robotics Laboratory at the Center of Excellence in Design, Robotics, and Automation (CEDRA), Sharif University of Technology (SUT). Prior to accepting this position, she was a faculty of Applied Linguistics (TEFL) performing teaching and research at SUT. She is known as the founder of Robot-Assisted Language Learning (RALL), and the co-founder of Social Robotics Research in Iran. Her areas of interest include discourse analysis, interlanguage pragmatics, materials development, and social robotics in educational and pediatric therapeutic settings. She has authored and published many articles in refereed national and international journals as well as a number of books in her field of expertise. In addition, she actively participates in national and international conferences as an author, presenter, and on the scientific committees, the latest being an International Program Committee member of the ICSR-2014, Sydney, Australia. She is an Assistant Professor at the Islamic Azad University Tehran-West Branch.



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Authenticity

Prof. Ali Meghdari received his Ph.D. in Mechanical Engineering and Robotics from the University of New Mexico in 1987, and then as a Post-Doctoral research fellow, he spent a year at the robotics group of the Los Alamos National Laboratory. Dr. Meghdari's research has been in various areas of robotics systems. He has been the recipient of a number of scholarships and awards, the latest being: the 2012 Allameh Tabataba'i Distinguished Professorship Award for Excellence in Teaching and Research by the National Elites Foundation of Iran. He is a Fellow of the American Society of Mechanical Engineers (ASME) since 2001. With over 220 publications, he is on the editorial board of various engineering journals, and an affiliate member of the Iranian Academy of Sciences (IAS). He is currently Director of the Center of Excellence in Design, Robotics and Automation (CEDRA) at Sharif University of Technology.



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