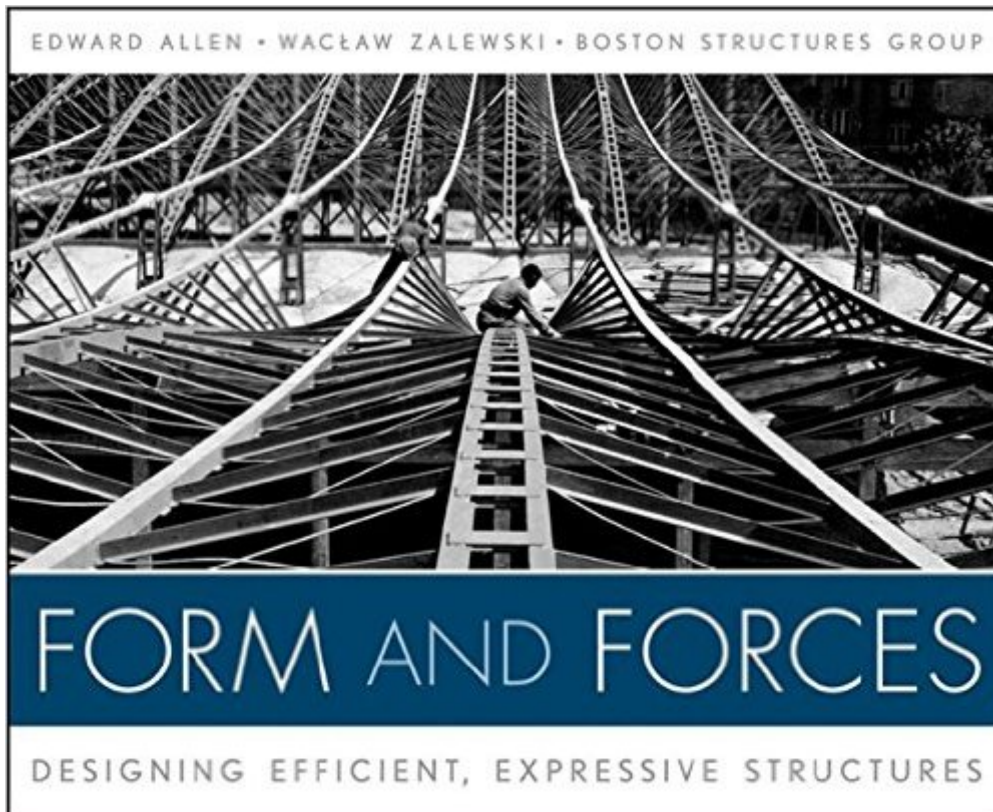


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# Form And Forces: Designing Efficient, Expressive Structures



## Synopsis

Here, in one volume, is all the architect needs to know to participate in the entire process of designing structures. Emphasizing bestselling author Edward Allen's graphical approach, the book enables you to quickly determine the desired form of a building or other structure and easily design it without the need for complex mathematics. This unique text teaches the whole process of structural design for architects, including selection of suitable materials, finding a suitable configuration, finding forces and size members, designing appropriate connections, and proposing a feasible method of erection. Chapters are centered on the design of a whole structure, from conception through construction planning.

## Book Information

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## Customer Reviews

This book is amazing and all structural engineers and architects, students included, should have this on their bookshelves. But more importantly than having it in your library is actually plunging into it and learning from it because if you learn these techniques they will completely transform the way you think about structural form and forces. I have been using this book in my classes, one class is taught to architecture students and the other to structural engineering students. The results have been astounding, the architecture students are empowered by the form finding tool of graphic statics and the engineers are thrilled by the beauty and logic of the force finding process. Both groups of students came up with dozens of elegant and efficient structures by linking the forces to the forms, and that is what I mean by "life changing". I find myself totally enthralled by this method and the

power it unleashes. I have a PhD in structural engineering and I am a registered engineer in California and I have never been so excited about a technique as I am with this one. The book is clearly written, down to the level of having figures and text match up on the page so you don't have to flip pages to refer to a figure. Some exercises are straightforward, so much so that I taught them to 6th graders as an outreach exercise. Other sections are deeply connected to higher order theories and merit study from my graduate students. Many references are made to the giants of our profession who have used these techniques to design graceful and efficient structures. Yet the book manages to be all these things in a precise and clear manner. The authors really want you to understand each step thoroughly and they give you the tools needed to really understand important ideas about structural form.

Ed's review says it all but I thought I'd chime in here. I have spent a considerable amount of time and money researching books that would provide a comprehensive, creative, and intuitive education in structural engineering. Sadly most of the books I found were dry and virtually impossible to creatively apply, or very creative but devoid of any science. I was pretty much set on reading a handful of dry books (with my eyelids taped open if necessary) and supplementing it with a handful of creative books (with constant reference to the dry books) and hope that I could start seeing and thinking properly. One chapter into this book, plus a perusal of the other chapters, was all it took to clear my shelf and focus my efforts on learning from this book and its online companion materials. It has it all, and it explains it all in a way us non-textbook people can both understand and get excited about studying. Yeah that's right - this book will make you WANT to learn structural engineering. This book is for enterprising product designers, architects, or others interested in knowing how forces interact with structures and how creative thought can minimize effort and material while creating a structure that can withstand the forces applied to it. It is long and thorough so do not expect a light treatment. Buy with confidence and use for life.

When this ebook was put on my kindle the graphs and formula's came out black. As per request of support I redownloaded, and the proble persisted. Also the format doesn't let you konw what page your on compared to the book, which makes it difficult when the professor says on page... You might want to stick with the book over the ebook.

This book won't make you an architect or a structural engineer, but it opens a lot of doors. Good teaching approaches abstractions with specific problems, visual hands-on models of the intangibles

involved, and clearly explained pragmatic solutions. From the first chapter--designing simple suspension bridges and calculating the loads with a visual representation called a force polygon--Allen takes you through a variety of forms, explaining simply and clearly the practical considerations underlying choice of materials and connectors as well the structures within which they are used. An architect's choice of scissors trusses to support the roof of a church is analyzed and found wanting, and replaced with (of all things) a simpler, less costly, and more effective tension structure using steel chain. The magnificent bubble-like dome over the courtyard of the British Museum is explained in terms of the structural efficiency which makes it so strong, though so light. No number crunching needed--by the end of the book, you should be able to design pretty good commonsense structures by doodling on a napkin.

The book provides basic knowledge about structure in a simple manner. Excellent Quality and reduced price compared to any book store or market price.

a remarkable, emergent way of understanding and becoming fluent in the way of flow of forces and embodied pressures.

great good for understanding and visualizing architectural form that responds to the forces that affect it.

Very clear covering of almost all structural fields

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