

Principles of Solar Engineering, by Goswami, Kreith, and Kreider.

REVIEWED BY DR. GARY C VLIET¹
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The second edition of “Principles of Solar Engineering” is a welcome book to those of us who have wanted a good source for covering the broad range of solar energy processes and applications in a reasonable depth. Until this edition, most if not all books on solar energy have either had an in-depth emphasis on a limited number of topics, or at the other extreme have provided a general coverage of the broad spectrum of solar energy processes and applications, without much technical depth for any of them. In teaching a solar energy course to engineering students over the years, I’ve wanted an assigned book that contained sufficient technical information for the broad spectrum of processes and applications, so that students would have at least an introductory resource for topics beyond those I am able to cover. It appears that “Principles of Solar Energy” provides such a resource.

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Even though the course offered is primarily “active”, inclusion of the “passive” chapter is useful to emphasize to engineering students that such applications are some of the best. Similarly, the coverages of photochemical and biomass applications are valuable. The appendices appear to include the appropriate ancillary information, and a reasonable set of problems is included with each chapter.

On the other hand, the coverage of “photovoltaics” is quite limited, considering the activity and potential in that area. There is little reference to software, and it would have been helpful to include a review of some of the better available software. Although not a “solar” topic, to round out their general coverage of renewables, it would have been useful to provide a brief coverage of wind energy. At this juncture, a solutions manual for the listed problems is not available. As to the text content, the reviewer understands that coverage was no doubt limited in the interest of length.

All in all, this appears to be a very good book and I have adopted it for our course for undergraduate and graduate engineering students this summer.