

Guideline to the lecture

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## "Minimal surfaces" (Minimalflächen)

topic: existence and geometric properties of area minimizing surfaces in Euclidean space

some highlights:

- Bernstein's theorem
- existence theory of Hilbert and Haas

necessary background material:

- multidimensional calculus including the Gauß-Green theorem
- linear algebra
- basics in complex analysis

The course touches

differential geometry, PDE and  
calculus of variations,

but does not require familiarity with these subjects.

## Technical comments :

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- 1.) The course consists of 12 lectures ("Vorlesung 1-12") presented in German.
- 2.) The material corresponds to Osserman's textbook up to page 104 of this monograph.
- 3.) In addition there is a typed "Skript" of the course, but we will not touch § 7.