

1. Introduction

1.1 Scope of the Seminar

1.1.1 Goals - What you should learn

What You Really Should Learn

- What things should you learn in this seminar that you don't know already? Well, there are several items:
- Learn how to give a **presentation** - a scientific presentation, to be precise.
You must have done this before in High School, and you may have given famous talks at birthday parties, in your *(insert the club of your choice)* club, or wherever - but odds are that you have not yet given a scientific talk. This means that you must learn how to do that.
 - Learn how to write a **scientific paper**.
We know that you have written a lot of essays in your High School days. We suspect that you weren't all that good at it - like many of the engineers and scientists that preceded you (including possibly the Prof). The bad news is that the average engineer or scientist will have to do a lot of writing as part of the job. The good news is that whatever you write will not be judged by your German or English teacher anymore, but by me - a fellow engineer and scientist.
 - Learn how to **research the facts** that go into your presentation and the paper that goes with it.
In contrast to the "humanities" (or "Geisteswissenschaft", as they call it in Germany), it is not good enough that you declare your personal opinion to be the **benchmark** (as we call it), and that diverging opinions voiced in the books that you have happened to read and remember are simply wrong. Sorry - but you must actually know the **facts** and refer to them in your paper. As long as you are not a professor or of similar exalted status, nobody is interested in your opinion.
 - Learn how to handle some of the **technicalities**
(most of which you should already know, by the way), but also a bit about the **idiosyncracies** of the scientific presentation culture. .
 - Learn some (minor) topic of Materials Science real well
- because that's what your presentation will be all about.
- As a minor topic on the side, you will get a first glimpse of the fact that science is made (and sold) by humans, with the vagaries and irrationalities intrinsically connected with this sobering **fact** of life.

What you Might Learn on the Side

- There are certain things that you could learn in addition to the stuff you must learn. You are free to take or leave the opportunities offered. Some topics are
- **English.**
It might come as a surprise, but all mature Materials Scientists and Engineers are fluent in English (not counting more or less weird accents). Your choice is to either become fluent too, or not to become a material scientist and engineer. In this course you can practice your English actively and passively, but it's up to you.
 - **Team work.**
You cannot possibly know what the term "team work" really means in the world of science and engineering, but you can get a first glimpse here. Consider the options: The **IQ** (intelligence quotient) of a team can either be higher or lower than the average **IQ** of its members. In the first case a team can achieve more than the sum of its individual members, in the second case we call the team the *(insert the name of your favorite idiot committee; e.g. the committee responsible for the German "Rechtschreibreform" the government of ..., or any "Akkreditierungsverein")*. Engineering teams must be of the former variety (or the team members would face unemployment rather quickly).
 - How to conduct a **scientific discussion**,
or how one can be extremely critical of each other - and still remain best friends.
- No Kiel Prof. of Materials Science will try to pound these things into your head, however. We do not grade your English etc. So don't worry, be happy.