

# Course design principles (MatN 2016)

1. Start concrete and gradually make it more abstract. Things you can touch on are very concrete, force diagrams are more abstract and formulas are the most abstract.
2. Let students work with many different forms of representation (graphs, code, images, formulae, etc.)
3. Provide or facilitate feedback on student products
4. Let students work individually when they need to build up knowledge they will use on their own
5. Let students work in groups when they can help each other to construct the necessary knowledge
6. Make room for the students to make relevant connections between what they learn in the course and what they can encounter later.
7. Make room for productive failures – mistakes that students can learn from.
8. Make sure that the students actively develop a conceptual understanding of mechanics.
9. Make sure that there is a connection between intentions for the course (learning objectives), teaching activities and evaluation (exam and assignments).