Ma 18 - Phase Transition in Biological Membranes

Prerequisites:

- Phase transition and phase diagram
- Nature of amphiphilses
- Phase transition of lipids
- Langmuir-Blodgett trough

Physics:

- Thermodynamics of phase transition in two-dimension
- Concept of Chemical potential (molar Gibbs energy)
- Surface tension
- Latent heat

Technical:

- Force measurement that acting on a rod in contact to the water surface
- Handling of biomaterial (lipid)
- Handling of Langmuir-Blodgett trough

Data analysis:

- Correct determination of existing phases of the lipid monolayer
- in the π-A curve
- Correct use of data analytical software (e.g. Origin, Python, Matlab, Excel etc.)
- Step-by-step determination of the latent heat from the π-A curve