

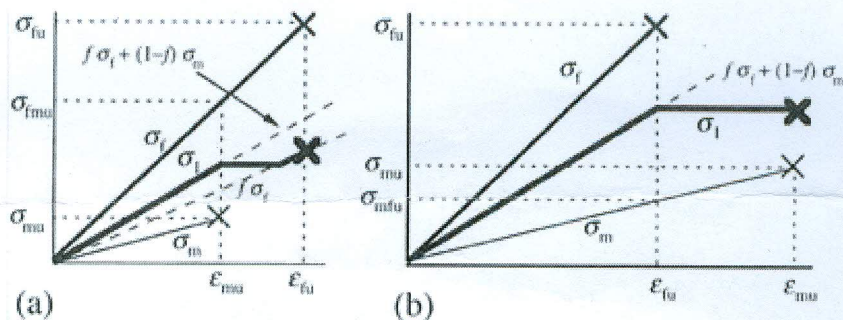
**TUT / Plastics and Elastomer Technology**  
**MOL-5526 Advanced Course on Composites**

1<sup>st</sup> Mid-term examination 18.03.2013 / Jyrki Vuorinen, Olli Orell and Reija Suihkonen

Max 30 points in total! Saa vastata myös suomeksi.

**Answer to three (3) questions only!**

1. Explain the role of fiber-matrix interfaces on the behavior of composites and describe briefly what kind of adhesion mechanisms there are? (10p)
2. Axial strength of a UD ply. Explain the behaviors shown in figures (a) and (b). (10p)



3. A cross-ply laminate (E-glass/epoxy) is loaded under tension to final fracture. Explain how the failure proceeds and give reasons why so. (10p)
4. Explain what standard laminate code (SLC) is and how it is used. Give examples of 6-ply unbalanced symmetric and balanced asymmetric laminates using SLC. How do basic and specific condensed laminate codes differ from standard laminate code? (10p)