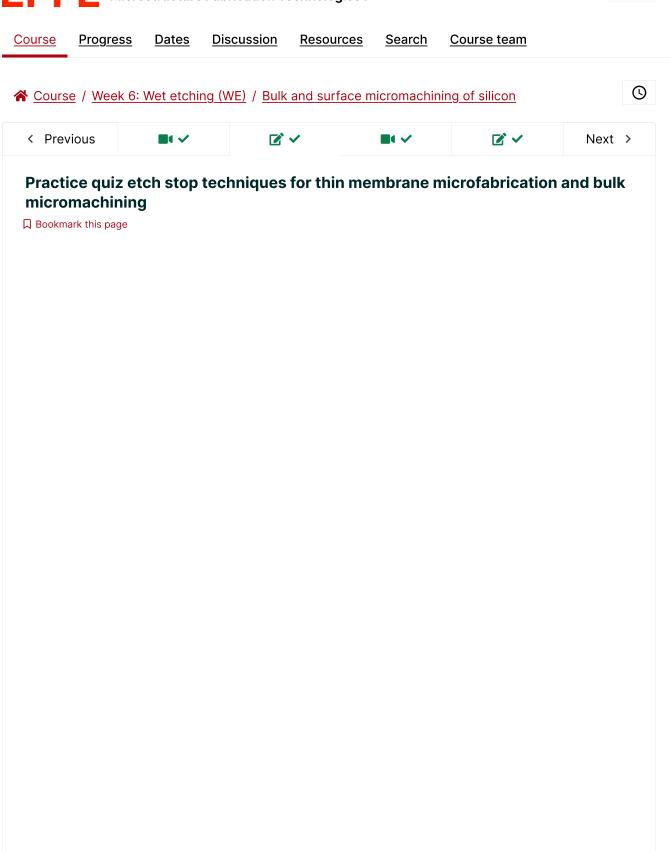


Help 😝 ~



/ 1	ate thin membranes from Si wafers. What is a disadvantage of this process?
	The technique requires the application of a positive potential to the wafer that produces holes at the Si/solution interface
<u></u>	Very high B concentrations are not compatible with standard CMOS devices and they may compromise the crystal quality
0	The silicon crystal orientation has a high influence on the implantation profile and hence it creates its proper B distribution
0	The SiO ₂ layer on top of the Si wafer does not provide a good B filtering and hence B implantation might extend more than the desired area
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comp comp to ma	ishr disadvartagevor PBietch-stop is that we have to use very high B concentrations which are not atible with standard CMOS or bipolar microelectronic devices and also that high B concentrations romise the crystal quality. Therefore, sometimes an electrochemical etch stop is used as an alternative ke a thin membrane. See "Etch stop techniques for thin membrane microfabrication and bulk machining" video from 1:45 to 2:50 for detailed explanations.
	at is the reason why a mask with arbitrary shape cannot be replicated accurately into the substrate by tropic wet etching of the bulk of the substrate?
0	A V-shaped structure appears under the mask because the etch rate in the (100) direction is slower than the etch rate in (111) direction
0	Using a mask with arbitrary curved structures results in different etching speeds, with deeper holes etched where the radius of curvature of the mask is higher
0	Etching stops only when the etchant arrives at (111) planes, which ultimately results in an inverted- roof rectangular structure when viewed from the top
0	The opening that is etched underneath the mask is at an angle of 45° with respect to the mask itself
~	
وامرد	nation H wet etching of an (100) wafer, (111) planes can be protected by a mask and the KOH cannot attack, ching of other crystal planes, the Si atoms in a (111) plane. The final structure will result in an inverted-ectangular structure when viewed from top. See "Etch stop techniques for thin membrane fabrication and bulk micromachining" video from 5:45 to 8:35 for detailed explanations.
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