this lecture will be an ~~unfair~~ presentation of the following topics

- Cats, functors, nat trans
- (co) limits
- adjunctions
- Yoneda embedding

- Monoidal closed categories
- Modules and abelian categories
- Generators.

Categories of functors
Presheaf categories
Categories of Opens of a space

Unit/counit
$[LA, B] = [A, RB]$

Completeness
monoidal closed
free module
zero object
enrich nat over Ab

Abelianity [kernel cokernel