Tentative program for the part 1 of Applied Algebra（Category Theory）

1st week
17/2 Category: definition, examples
19/2 First properties of categories, functors

2nd week
24/2 Natural transformations

3rd week
3/3 Equivalence of categories
5/3 Products and coproducts

4th week
10/3 The Hom functors. Yoneda's lemma

5th week
17/3 Universal objects
19/3 Adjoints

6th week
24/3 Variety of algebras

7th week
31/3 Free products of groups
2/4 Midterm

References:

1. **N. Jacobson "Basic Algebra II" chapter 1 and 2 (main book)**
2. Emily Riehl - Category Theory in Context
3. S. MacLane Categories for the Working Mathematician
4. G. Bergman An invitation for General Algebra and Universal Constructions https://math.berkeley.edu/~gbergman/245/3.0.pdf