

The following are the major topics that will be covered in the CSE 341 midterm exam. There will be time to review in sections this Thursday.

- Basic SML concepts such as bindings, expressions (including conditionals), functions
- Syntax; semantics; types; and evaluation
- Basic types in SML: tuples, records, lists, options
- Let expressions and other bindings; scope
- User defined types: (datatype) and type synonyms (type)
- Pattern matching, both in case expressions and function definitions; deep patterns
- Recursion, tail recursion (including accumulators), and mutual recursion
- Higher order functions including key idioms (map, fold, filter), types for higher-order functions
- Currying and partial evaluation
- Type inference and polymorphism
- Function closures and environments
- Closures as Abstract Data Types
- Notions and types of program equivalence; syntactic sugar, functional equivalence (renaming, substitution, capture)
- Modules, structures and signatures—just basic ideas behind hiding and abstraction