

# Midterm Info

Date: **Monday, March 12, 2018, 05:30 - 06:45 p.m.**

- This is a closed book exam; only 1 sheet of notes (handwritten) is permitted.
- You will have 75 minutes for this exam.
- It will consist of  $k$  questions worth  $x$  points each, plus a question  $k+1$  for extra credit.
- The extra credit will be recorded separately, so make sure you have answered first  $k$  questions correctly before moving on to question  $k+1$ .
- All questions will be taken from the following list of templates.
  1. For a given NFA construct an equivalent DFA.
  2. Convert a given regular expression to an equivalent NFA.
  3. Convert a given DFA to an equivalent regular expression.
  4. For a given language either prove that it is not regular or give a regular expression describing it (or DFA (NFA) recognizing it).
  5. Convert a given CFG into an equivalent CFG in Chomsky normal form.
  6. Convert a given CFG to an equivalent PDA.
  7. Convert a given PDA to an equivalent CFG.
  8. For a given CFL give a CFG describing it or a PDA recognizing it.