Reading for Lectures 26–28:

- Boyce & DiPrima 7.1, 7.4–7.9
- You might also want to read sections 7.2, 7.3 for a capsule review of matrices, eigenvectors and eigenvalues.

Problems:

- 7.1 Ex. 5; write the system in matrix notation.
- 7.4 Ex. 4, 6
- 7.5 Ex. 6, 29
- 7.6 Ex. 2
- 7.7 Ex. 5
- 7.8 Ex. 1
- 7.9 Ex. 4, 8
- Problem A. Suppose \( x^{(1)}, \ldots, x^{(n)} \) and \( y^{(1)}, \ldots, y^{(n)} \) are two fundamental sets of solutions of the homogeneous first order system of \( n \) equations

\[
    x'(t) = A(t)x(t).
\]

Since they are bases of the same space, there is a change of basis matrix \( B \) such that \([x^{(1)}, \ldots, x^{(n)}] B = [y^{(1)}, \ldots, y^{(n)}]\). Express the relationship between the Wronskians of the fundamental systems \( x \) and \( y \) in terms of \( B \). (This solves 7.3, Ex. 3, without using the differential equation satisfied by the Wronskian.)