Chapter 14 of *University Calculus*, Hass, Weir, Thomas

Below is a list of sections and subsections for Chapter 14. In the text, subsections are not numbered but each is set off by a title set in blue type. I've labeled the subsections, given the title, and indicated the page number in parenthesis. On the next page is a list of the subsections in the order we covered them in class.

Reordering of Chapter 14 of *University Calculus*, Hass, Weir, Thomas

1. Line integrals for scalar fields
   - 14.1.1 Definition and how to evaluate (851, unlabeled)
   - 14.1.2 Additivity (853)
   - 14.1.3 Mass and moment calculations (853)

2. Surface integral for scalar functions
   - 14.5.1 Parametrizations of surfaces (887)
   - 14.5.2 Surface area (888)
   - 14.6.1 Surface integrals (896)

3. Vector fields
   - 14.2.1 Vector fields (857)
   - 14.2.2 Gradient fields (859)

4. Line integrals for vector fields
   - 14.2.3 Work done by a force over a curve in space (859)
   - 14.2.4 Flow integrals and circulation for velocity fields (862)
   - 14.3.1 Path independence (868)
   - 14.3.2 Assumptions on curves, vector fields, and domains (868)
   - 14.3.3 Line integrals in conservative fields (870)
   - 14.3.4 Finding potentials for conservative fields (872)

5. Surface integrals for vector fields
   - 14.6.2 Orientation (899)
   - 14.6.3 Surface integral for flux (899)
   - 14.2.5 Flux across a plane curve (863)

6. Divergence and curl
   - 14.4.1 Divergence (878)
   - 14.8.1 Divergence in three dimensions (914)
   - 14.4.2 Spin around an axis: the $\hat{k}$-component of curl (879)
   - 14.7.1 Curl vector (905, unlabeled)
   - 14.7.3 Paddle wheel interpretation of curl (908)
   - 14.7.4 Proof of Stokes' Theorem for polyhedral surfaces (910)
   - 14.7.6 An important identity (911)

7. The Divergence Theorem
   - 14.8.2 Divergence Theorem (914)
   - 14.8.7 Unifying the integral theorems

8. Stokes' Theorem
   - 14.7.2 Stokes' Theorem (906)
   - 14.4.3 Two forms for Green's Theorem (880) (tangential form)
   - 14.4.4 Using Green's Theorem to evaluate line integrals (882)
   - 14.7.6 An important identity (911)
   - 14.7.7 Conservative fields and Stokes' Theorem (911)

9. Omitted
   - 14.3.5 Exact differential forms (874)
   - 14.4.3 Two forms for Green's Theorem (880) (normal form)
   - 14.4.5 Proof of Green's Theorem for special regions (883)
   - 14.5.3 Implicit surfaces (891)
   - 14.6.4 Moments and masses of thin shells (901)
   - 14.7.4 Proof of Stokes' Theorem for polyhedral surfaces (910)
   - 14.7.5 Stokes' Theorem for surfaces with holes (911)
   - 14.8.3 Proof of the Divergence Theorem
   - 14.8.4 Divergence Theorem for other regions
   - 14.8.5 Gauss' Law
   - 14.8.6 Continuity equation of hydrodynamics