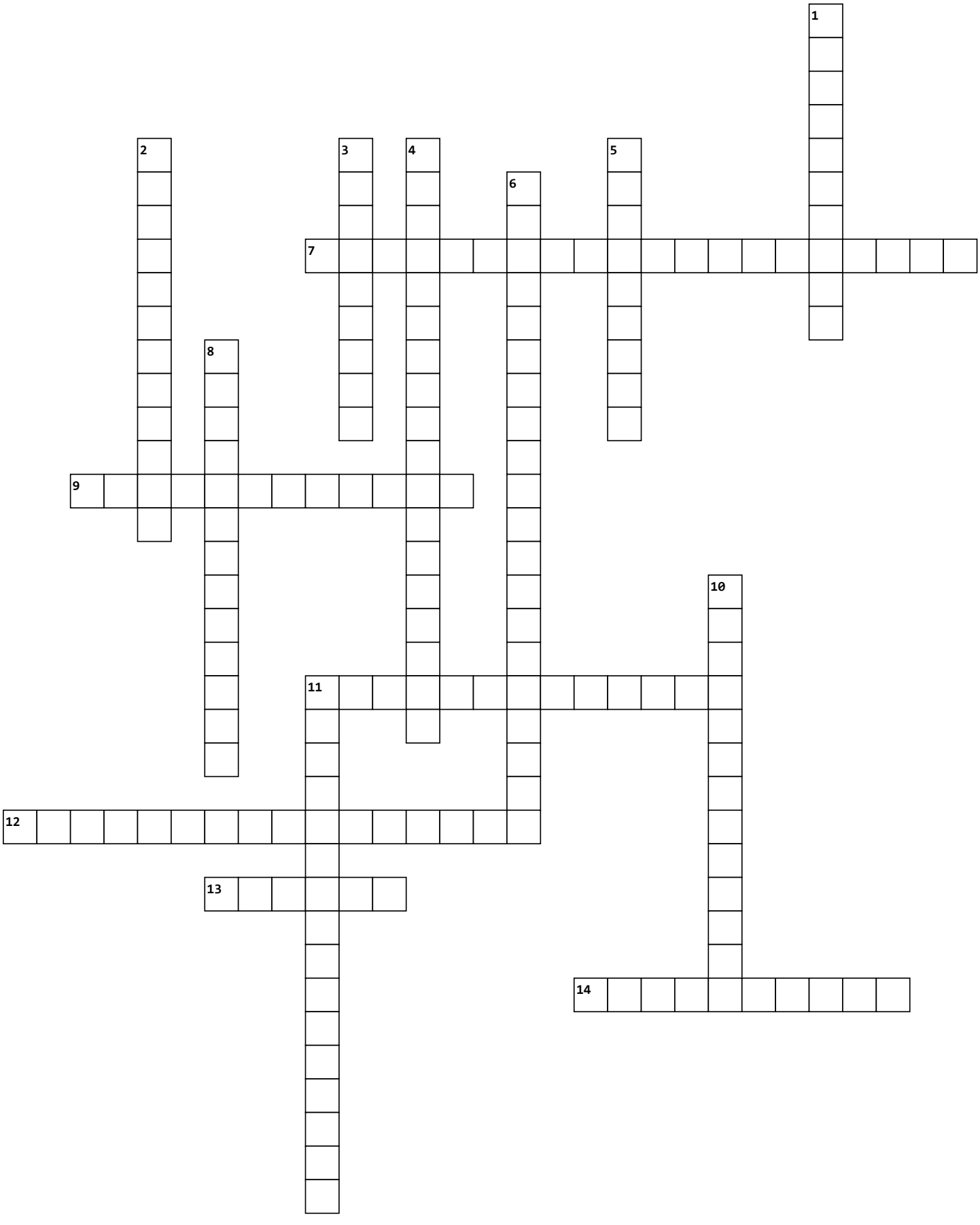
19AST302-Flight Dynamics-Unit-4-STATIC LATERAL AND DIRECTIONAL STABILITY



Across

Down

7. The tendency of an aircraft to align its nose into the relative wind, contributing to directional stability.

9. The upward angle of the wings, providing lateral stability by generating differential lift during roll.

11. The angle between the aircraft's longitudinal axis and the relative wind during a sideslip, affecting both lateral and directional stability.

12. The stability of an aircraft around its longitudinal axis, affecting roll control.

13. The primary control surface for maintaining and adjusting directional stability.

14. The stabilizing effect caused by the side area of the fuselage and vertical tail.

1. The reduction of yaw oscillations, contributing to directional stability.

2. The interaction between lateral and directional stability, where a yaw motion induces roll.

3. The backward angle of the wings, enhancing both lateral and directional stability.

4. The vertical fin on the tail that provides directional stability.

5. A combined lateral and yaw oscillation that occurs when lateral and directional stability are out of balance.

6. The stability of an aircraft around its vertical axis, affecting yaw control.

8. The downward angle of an aircraft's wings, which can reduce lateral stability.

10. The upward angle of an aircraft's wings relative to the horizontal plane, contributing to lateral stability.

11. A condition where an aircraft progressively rolls and yaws into a descending spiral due to insufficient lateral stability.