Course Objective	Measurement Instrument	Self Assessment (A-F)	Student Assessment (A-F)
1. Students demonstrate ability understand basic physics and thermodynamics and equation of state and its relationship to compressible flow physics	Homework assignments, two homework sets		
2. Students demonstrate the ability to adapt apply integral form of conservation, momentum, and energy equations to one-dimensional flow problems; solve for isentropic flow properties in ducts, nozzles and diffusers.	Homework assignments, two homework sets; Programming assignment (1)		
3. Students demonstrate the ability to solve for the flow conditions ahead and behind normal and oblique shock-waves and Prandtl Meyer-expansion fans. Apply knowledge to solve for flow conditions on supersonic wedges and airfoils.	Homework assignments, three homework sets; programming assignments (2) In-class midterm exam.		
4. Students demonstrate to adapt three-dimensional axis-symmetric differential flow equations to conical flow geometries. Use Taylor-Maccol method to solve for flow conditions within conical supersonic flow field.	Homework assignments, one-homework set; programming assignment (2).		
5. Students demonstrate ability to solve for surface properties in hypersonic flow field using tangent wedge, tangent cone, and modified Newtonian flow models. Demonstrate ability to solve for flow conditions with non-adiabatic flow conditions across normal shock wave (variable gamma),	Homework assignments, two sets; programming assignments (2); Take-home Final Exam.		