



## Course Outline

## Mech 139 Fabrication



Mechanical Engineering Technology

www.okanagan.bc.ca/technologies

**Instructors:** Reg Marte and Ralf Pfob

5 hours/wk.

**Office:** C330B and CA101 (Kelowna campus Lab building)

Sep – Dec 2008

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### Topics

- **History & Safe Workshop Practices**  
Protective clothing, eye/ear protection; good housekeeping procedures (5-S), workplace hazards; first aid procedures, operation of fire extinguishers; responses to common industrial accidents; waste disposal procedures, storage of contaminants & acids, WHIMIS
- **Metrology & Basic Dimensional Measurement**  
Vernier calipers, vernier protractor, micrometers; dial gauges, DROs, combination sets
- **Layout & Basic Measurement**  
Steel rules, solid squares, combination squares; scribes and dividers; layout and marking tools
- **Hand Tools**  
Machine shop hand tools: Hammers, screwdrivers, files, hack saws, chisels and punches; bench-vise, clamps; taps and dies
- **Basic Machining Practices & Power Tools and Accessories**  
Portable drills, twist drills Centre drilling, reaming, tapping, threading; cut-off saws and band saws
- **Machine Tool Operation**  
Drill press, lathe, vertical milling machine (turning and facing; flat surface machining)
- **Cutting Fluids**
- **Machining Theory & Tool Geometry**  
Tool materials, cutting speeds, feed rates, rake angles, cutting fluids
- **Sheet Metal & Manufacturing Process**
- **Abrasive Machining**  
Grinding wheels, abrasive belts; portable grinders, bench/pedestal grinders,
- **Threading**
- **Work Holding Tools**  
Jigs, clamps, fixtures, face plates, chucks, collets

### Text and Supplies

The following text is required:

Walker: Machining Fundamentals,(Copyright 2004), The Goodheart-Wilcox Company

For all labs in the Mechanical shop area, students **must** wear shop coat, safety glasses and Steel Toe work boots (CSA approved– green triangle on boots).

### Marks Distribution

Shop Work / Project	50%
Assignments / Quizzes	15%
Mid Term Exam	15%
Final Exam	20%

Note: 80% of assignments must be attempted in order to pass the course. Late assignments will be graded as per Marking Standard.

### Okanagan College Grade Scale

90-100	A+	First Class
85-89	A	First Class
80-84	A-	First Class
76-79	B+	Second Class
72-75	B	Second Class
68-71	B-	Second Class
64-67	C+	Pass
60-63	C	Pass
55-59	C-	Pass
50-54	D	Marginal Pass
0-49	F	Failure