

**SAULT COLLEGE**  
**of Applied Arts and Technology**  
**Sault Ste. Marie**

**COURSE OUTLINE**

PHYSICS 116-3

Building Science I

revised \_^fi

Applied Mathematics

- a) English System (review)
  - Metric System (1) CGS
  - (2) SI (emphasis)
- b) Measuring (significant figures)
- c) Error Calculations

Hydraulics

- a) Force - Principle of Force
  - Properties of Force
- b) Gas and Water Pressure (Introduction)
- c) Pressure - (applied force)
  - pressure gauges
  - porosity and permeability of natural and other construction materials
- d) Pascal's Law
  - Pressure in = pressure out
- e) Density vs Specific Gravity
  - Experiment - Concrete of different SG u
  - calculate density in SI

Archimedes Principle

- Isostasy of buildings
  - Above and below G.W, Level
  - Variations with annual change
  - Variable density liquids
  - (soil water Pilxtures) effect on buildings
- Channel Flow
- Weir - stream - gauges
- f) Flow - 1) Turbulent flow
  - xi) Lamellar F-low
  - iii) Transportation in streams and erosion
  - effect of Dam Sites on flow patterns
- g) Bernouilli's Principle and Applications
- h) Air Pressure
  - i) Units - Atmosphere
  - Bars
  - Pascals
  - 11) Gauge Pressure and Absolute Pressure

Wave Motion and Sound

- a) Types of waves - long
  - transverse
  - compressaonal
  - love waves

Topic : No.      Periods      Topic Description      Reference

		b) Wave equations Standing waves	
1		c) Reflection and Refraction of Sound	
1		d) Velocity of sound	
		e) Pitch - Intensity . Measurement of these - S.P. Levels Industrial Applications as cutting tools	
1		f) Doppler effect	
		<u>Optics</u>	
1		a) Nature of light waves	
2		b) Reflection and Refraction of light	
2		c) Polarization ~ Tri Surau y,av →	
1		d) Lenses - basic type The lens equation	
1		e) Mirrors - Types	
1		f) Optical images    i) Real ii) Virtual images	

Plus 3 hours test and review time