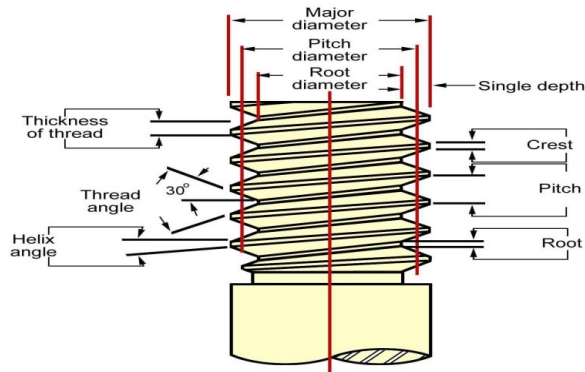


FACULTY OF ENGINEERING
DESIGN AND PRODUCTION ENGINEERING DEPARTMENT

Credit hour system
Metrology lab II

Assignment on

Thread Measurement



<i>Student Name</i>	<i>Remark</i>
<i>ID</i>	<i>Signature</i>

Prepared by
Prof. Mohamed Ahmed Awad

2021

Assignment No. 5: Thread Measurement Problems

Example No. 1

Derive an expression to calculate included angle using wires.

Assignment No. 5: Thread Measurement Problems

Example No. 2

Derive an expression to calculate the effective diameter using three wires.

Example No. 3

Two wires of 1.366 and 1.943 mm diameters were used to check the flank angles of a 24 mm metric thread of 3 mm pitch. The oversize readings were 24.320 and 26.058 mm respectively. Find out the included angle of the thread.

Example No. 4

Find out the simple effective diameter of M16-2 screw if the reading under 3 wires placed in the thread is 14.319 mm. The wires having 1.35 mm diameter.

Solution

Example No. 5

The following readings were also taken when measuring the effective diameter of the screw whose pitch is 4:

- micrometer reading over 14.372 mm standard cylinder is 22.001 mm.
- micrometer reading over screw with 1.7485 mm wires in position is 13.427 mm.
- Find the simple effective diameter of the screw.

Solution

