



UNC CHARLOTTE

The WILLIAM STATES LEE COLLEGE of ENGINEERING

## Senior Design Project Description for SPRING 2017

### Project Title: Winbro Group Technology Part Inspection (WGT\_HOLE)

Supporter: Winbro Group Technologies

Supporter Technical Representative: ASSIGNED

Faculty Mentor: \_\_\_\_\_ ASSIGNED  TBD (check one)

Single Team  Dual Team \_\_\_\_\_ (check one)

Personnel (EN/ET):   1   E,   1   Cp, \_\_\_\_\_ Cv,   2   M, \_\_\_\_\_ SE

(Complete if the number of students required is known)

Expected person-hours: (250 per student)

#### Description of Project:

Winbro Group Technologies is a world leader in the design and manufacture of advanced machines and technologies based on non-conventional processes. Winbro high technology machine systems produce features in components used in the most demanding part of aero and industrial gas turbines.

This project is to design and create a system that can be used in the inspection of features in aerospace and industrial gas turbine parts. A rough conceptual design has been developed by Winbro Group.

#### Initial Project Requirements (e.g. weight, size, etc.):

Winbro Technologies will provide some preliminary design parts to get the team started as well as a part holding fixture. In addition a scrap part will be provided for the project team to use.

The conceptual design must be verified. Hardware and software requirements are to be determined.

Project requirements include:

- Specify the correct hardware to make sure it can conform.
- Integrate the hardware and software (open source software to be used)
- Program the software
- Run gauge testing and analysis
- Interface to connect test hardware and part holding fixture

#### Expected Deliverables/Results:

A functional and tested system is to be provided. An operating manual with design drawings will be included.

**List here any specific skills or knowledge needed or suggested (If none please state none):**

None