

Senior Design Project Description for FALL 2016

Project Title: Manufacturing Campus Study (UNCC_MANUF)

Supporter: UNC Charlotte SEEM

Supporter Technical Representative: ASSIGNED

Faculty Mentor: ASSIGNED TBD (check one)

Single Team Dual Team (check one)

Personnel (EN/ET): E, Cp, Cv, M, 3 SE

(Complete if the number of students required is known)

Expected person-hours: (250 per student)

Description of Project:

In the Charlotte region, a significant barrier to development of a robust advanced manufacturing sector is the lack of qualified suppliers for engineering and other support to the design and manufacture of prototypes for production. To overcome this barrier to development, this project will comprehensively evaluate the current manufacturing sector in the Charlotte Region, and based on the evaluation, develop a tactical plan to address deficiencies and develop a path forward, to include aggregation of small and medium manufacturers into a serviceable area to achieve efficiencies of scale in linking the businesses to an array of intellectual, technical and support services. The solution will include a close relationship between industry and the university, which will influence the location of the serviceable area. Step 1,

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

This project will be broken into two steps. Step 1, the 'research and evaluation phase', will involve collection of data and conducting extensive interviews. After Step 1 is completed, Step 2, development of the tactical plan will be performed.

Step 1 consists of:

- Development of a comprehensive schedule of manufacturing enterprises in the Charlotte region
- Schedule and conduct interviews with as many of the manufacturing enterprises as possible
- Consider the needs of mature manufacturers and manufacturing start-ups and whether these needs are being addressed by the regional institutions of higher learning
- Evaluation of the engineering services industry in the Charlotte region including capability, size and market(s) addressed of local engineering companies.
- Interviews with officials from Charlotte (city and county), academic institutions and regional officials

Step 2 consists of:

Develop a plan to address the deficiencies and provide a path forward, including;



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- Changes needed in the institution(s) including UNCC to meet the staffing needs
- Plan for development of base of suppliers to support start-up manufacturers.
- Plan or proposal for support (required) incentives from regional, state and local government to establish enterprises to provide support to start-up
- Plan or proposal for development of partnerships or relationships between institutions of higher learning in the Charlotte region
- Plan or proposal for a 'center' or 'area of excellence' to locate both start-up manufacturers and suppliers for manufacturers
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Expected Deliverables/Results:

A complete report summarizing the results of the findings in Step 1 and the proposed plan in Step 2 will be provided at the completion of the project.

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

MS Office Skills, including MSW, Excel and PowerPoint