



UNC CHARLOTTE

The WILLIAM STATES LEE COLLEGE of ENGINEERING
Department of Mechanical Engineering and Engineering Science



For more information

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MOTORSPORTS ENGINEERING



*Training Tomorrow's Workforce
Advancing the Science of Speed*



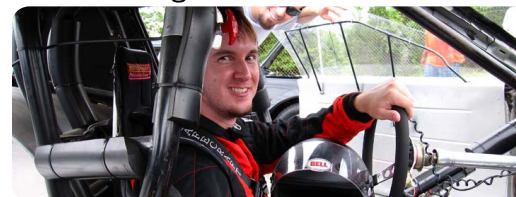
NC MOTORSPORTS AND AUTOMOTIVE RESEARCH CENTER

<http://motorsports.uncc.edu/>

Got Motorsports?

Welcome to UNC Charlotte, the nation's premier four-year motorsports program. Located near the Charlotte Motor Speedway and most NASCAR Sprint Cup teams, we are in the heart of racing. About one out of ten NASCAR engineers received his or her degree from UNC Charlotte, and the number is growing.

In 1998, UNC Charlotte started the first US concentration in motorsports, which is part of the Mechanical Engineering and Engineering Science Department. Since then, it has grown to include several departments in four colleges across campus and offers Bachelors, Masters, and Ph.D. degrees.



Accelerate to a Brighter Future Today



UNC Charlotte Car of Tomorrow (06/2013)

Success Stories

Many of the program's alumni seek and obtain gainful employment in the racing industry. Several alumni have gone on to work with NASCAR Sprint Cup, Nationwide and Camping World Truck teams, on the NHRA and IHRA drag racing and LeMans sports car circuits, with late model teams, and in the automotive design and development industry. Among the many graduates working in motorsports, standouts include two who were tapped early in their senior years to serve as chief engineers with NASCAR teams. Alumni work with prominent teams including Hendrick Motorsports, Stewart HAAS Racing, Joe Gibbs Racing, Penske Racing, Richard Childress Racing, Roush-Fenway Racing, and numerous others. In addition, the program graduated the first female engineer employed at NASCAR Research & Development.



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Curriculum

The UNC Charlotte Mechanical Engineering concentration in Motorsports and Automotive Engineering provides students with an advanced theoretical and applied educational approach to learning. The program is unparalleled in the country, with the Alan Kulwicki race shop and the recent addition of the Motorsports Research Building both offering a wide variety of hands-on learning opportunities. Our approach to educating students is to combine classroom theory with a heavy dose of hands-on instruction.

The faculty and staff have strong motorsports and automotive backgrounds. This helps students learn what they need to find jobs in the motorsports and automotive industries.

To emphasize hands-on learning, students also participate in student-led race teams and competitive racing engine building. These teams include:

- SAE Baja, Design, Build, and Compete Project
- Formula SAE Design, Build, and Compete Project
- Drag Racing



CONCENTRATION IN MECHANICAL ENGINEERING

To broaden the students' future options (and allow options outside of racing), Motorsports students get a degree in Mechanical Engineering and Engineering Science (e.g. BS/MEES). The students register for Technical Electives that cover topics in Aerodynamics, Computational Fluid Dynamics, Internal Combustion Engine Theory, Engines Lab, Vehicle Dynamics, and Motorsports Instrumentation. Variations on these courses include time at the wind tunnel, laboratory, and racetrack testing. Degrees range from Bachelor of Science to Doctorate.

In addition to the coursework, students learn on motorsports race teams such as our SAE Baja and Formula SAE projects, Drag Racing team, or Engine Masters teams. Typically, a half a dozen gasoline and diesel engines are under construction for research purposes or being built for racing. On average, over 90 students are enrolled in the Motorsports concentration.

OTHER DISCIPLINES

Students in other disciplines at UNC Charlotte can also participate in the motorsports activities. In the past, these have included students not only from the Lee College of Engineering, but also from the Belk College of Business, the Art Department, Kinesiology, and even Meteorology, just to name a few.

RESEARCH

UNC Charlotte offers a comprehensive package to support the motorsports industry. Innovative research is conducted in Advanced Gasoline and Diesel Engines, Engine Coatings, Aerodynamics, Transmissions, Stability Control, Emissions, and more. The research is supported by state-of-the-art facilities and equipment.

The transition from undergraduate learning to graduate research is seamless due to the coordination of UNC Charlotte's North Carolina Motorsports and Automotive Research Center (NCMARC), which is located on the UNC Charlotte campus. NCMARC oversees the coordination of research activities between the program's participating motorsports faculty.

The NCMARC also enjoys collaborative relationships with the Center for Precision Metrology, the Center for Optoelectronics and Optical Communication, and the Charlotte Research Institute, all of which are located on campus. These relationships provide exceptional synergies in world-class metrology capabilities and development of optical components and sensors for the automotive and motorsports markets.



INTERNSHIPS

Many students are also able to secure part time positions with the many Sprint Cup and Nationwide teams in the Charlotte region, while still in school. Although these positions are competitive and not guaranteed, UNC Charlotte has become a first stop for teams looking for new hires due to the quality of the program and ability of its students to work while going to school.

Interested? Contact Us

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