# Centre for Automotive Engineering | University of Surrey**Job title:** Automotive Engineer

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| **Job title:** | Automotive engineers design, develop, test and build cars and motorbikes. |
| **Routes and Entry requirements:** | **University**  You’ll usually need a foundation degree, higher national diploma or degree, before joining a company training scheme.  Relevant subjects include:   * mechanical engineering * electrical or electronic engineering * design engineering * manufacturing engineering * automotive engineering   A course with a work placement or an internship will be especially useful.  You'll usually need:   * at least 1 A level, or equivalent, for a foundation degree * between 1 and 3 A levels, or equivalent, for a higher national diploma or degree   **Apprenticeship**  You could get into this job through a manufacturing engineer degree apprenticeship or product design and development engineer degree apprenticeship.  You'll usually need:   * 4 or 5 GCSEs at grades 9 to 4 (A\* to C) and A levels, or equivalent, for a degree apprenticeship |
| **Skills required:** | You'll need:   * maths knowledge * knowledge of engineering science and technology * design skills and knowledge * knowledge of physics * to be thorough and pay attention to detail * analytical thinking skills * the ability to use, repair and maintain machines and tools * thinking and reasoning skills * to be able to use a computer and the main software packages competently |
| **What you'll do:** | You might work on:   * body, chassis and engine systems * electrical and electronic instrumentation and control systems * thermodynamics, aerodynamics and fluid mechanics * fuel technology and emissions * You could work in: * design – turning ideas into blueprints for development and testing, taking into account safety, cost-effectiveness, environmental impact and look * development – building and testing prototypes using computer simulations and physical models to assess components' strengths, weaknesses, performance and safety * production – planning the production run, including redesigning machine tools, equipment and processes to make new parts, monitoring costs and production schedules, and overseeing quality control |
| **What you’ll earn:** | £20,000 Starter *to* £45,000 Experienced |
| **Working hours, patterns and environment:** | * Typical hours (a week) 39 to 41 * You could work evenings, on shifts * You could work in an office, at a research facility or at a manufacturing plant. |
| **Career path and progression:** | With experience, you could progress to senior engineer roles, project team management, general management or consultancy. |