

# Master's Program in Computer and Systems Engineering

## Curriculum: Electric Vehicle Propulsion and Control Call 2021

Electric Vehicle Propulsion and Control is a 2-year Master curriculum within the Master's Program in Computer and Systems Engineering at the University of L'Aquila. It will be active from the academic year 2021–2022 and intends to provide multidisciplinary competences in the area of the e-mobility, with particular focus on the aspects of control, electric motors, embedded systems, typical of the specific field of the electric mobility. This will form an engineer capable of providing technical and scientific competences aimed at solving the problems of the decarbonization and of the sustainable mobility.

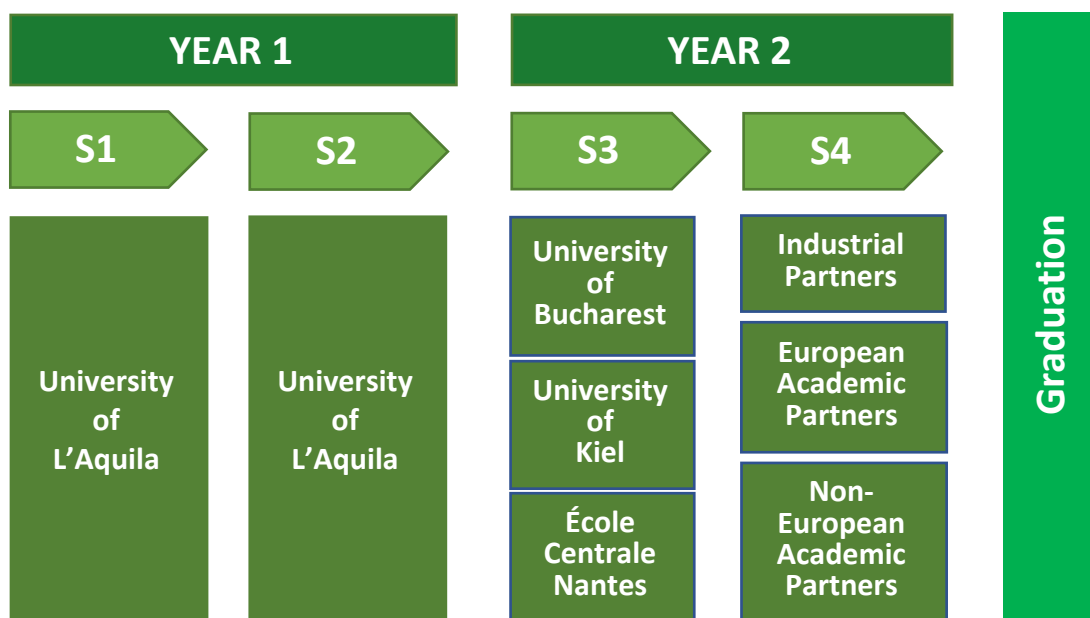
This curriculum is fully taught in English, and aims at forming top students who, appropriately selected on the basis of their results in the first two semesters in L'Aquila, can continue their studies in the second year with a mobility within the international program called E-PiCo, which is a joint Master program financed by the European Union (see <https://master-epico.ec-nantes.fr> for further details). The European Institutions participating to the E-PiCo project, along with the University of L'Aquila, are:

1. The École Centrale de Nantes, France;
2. The Christian-Albrechts-Universität zu Kiel / Kiel University, Germany;
3. The Universitatea Politehnica din Bucuresti, Romania (UPB).

Once the student is accepted for the international mobility, he/she can plan a mobility in one of these institutions for the third semester. This mobility allows the student to obtain a double degree.

Other associate Institutions participate to the program, such as the École de Technologie Supérieure (Canada), CINVESTAV (Mexico), and the Wuhan University (China), along with industrial partners, such as Airbus, Renault Group, Daimler, IAV GMBH, Jungheinrich, Honda, Modis, Pure Power Control (P2C), DigiPower, Tekne and ECA Group. In these Institutions and industrial partners, the students can develop their thesis in the fourth semester in collaboration with the University of L'Aquila and the Academic Institution chosen in the third semester, to complete their education and training.

The mobility scheme is as follows:



For the mobility of the third and fourth semesters some scholarships are planned to support the students to partially cover fees and mobility expenses.

The students applying to this curriculum must have at least a level B2 in English and a bachelor's degree (180 ECTS), preferably in Information Engineering. They are selected on their academic excellence and prerequisites, such as automatic control, power electronics and electrical machines, and computer science. In particular, the bachelor's degree must include at least:

- a. 48 ECTS in computer science, information processing systems, telecommunications, algebra, geometry, mathematical analysis, probability, mathematical physics, numerical analysis, statistics, chemistry, experimental physics, matter physics, with at least 12 ECTS in mathematical analysis, 6 ECTS in geometry, 12 ECTS in experimental physics;
- b. 72 ECTS in automatic control, computer science, electronics, telecommunications, with at least 33 ECTS in automatic control, information processing systems (with at least 15 ECTS in automatic control and 15 ECTS in information processing systems), 6 ECTS in electronics (computer science, electromagnetic fields, electric and electronic measurements), 6 ECTS in telecommunications (electromagnetic fields, telecommunications).

To apply to this curriculum, the student needs to apply to the Master's Program in Computer and Systems Engineering at the University of L'Aquila, curriculum "Electric Vehicle Propulsion and Control".

Students from abroad the European Union have to register at the University portal and submit their application (<https://www.universitaly.it/index.php/registration>). This site will guide the foreign students along the application procedure and, at the same time, it allows the Italian Embassy in the student's country to have direct access to his/her application and support him/her in every required step. For assistance during the procedure to follow on University portal, please write to the International Office at the University of L'Aquila (email address: [international.students@univaq.it](mailto:international.students@univaq.it)).

It is important to note that the application to the University of L'Aquila (or via the University portal for extra-European students) **does not imply the admission** to the curriculum Electric Vehicle Propulsion and Control, since the selection described above will be applied.

Applicants needing further details or asking for a preliminary evaluation of their eligibility to the Electric Vehicle Propulsion and Control curriculum, can send a mail to [stefano.digennaro@univaq.it](mailto:stefano.digennaro@univaq.it).