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Science in the kitchen

July 20-31, UTC will be organizing its very first international summer school, on culinary sciences and diet applications. The school, held in English, will enable some 20 foreign students to learn how to prepare healthy food based on French gastronomy and the scientific principles used in the agro-food industrial sectors.

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An opening to international activities

Not only is France renowned for its refined gastronomy, but the country also possesses one of the most powerful agro-food sectors in the world. In terms of exports, agro-foods 'weigh' more than automobiles! UTC has been training engineers for the agro food sectors for many years now and decided to focus its first international summer school on this topic and promising domain of activities.

"UTC enjoys numerous exchanges with other engineering schools and university institutions. The difficulty lies in the fact that we send more students to them than they do to us. Consequently, we decided to organize several events this summer to welcome our partners' students. The summer school on culinary arts may be introduced by an intensive week on French language early July or August", explains Olivier Schoefs, UTC Director of International Relations. In coming summers, we should be seeing other summer schools devoted to other UTC specialties such as cosmetics or virtual reality (VR).

Theory and practice on the menu

In the two-week programme, students from Asia, North Europe, the USA and Latin America will learn to explore famous French dishes from a scientific point of view. *"The fame of French 'cuisine' often to be found in the sauces used, rich in fat and we want to show that we can make this gastronomic healthier whilst retaining the full tastes and the aesthetics of the dishes"*, explains Claire Rossi, Head of the UTC specialty Innovation, Food and Agro-resources, in charge of the summer school organization. Each participant will choose a French specialty to work on in terms of various nutritional criteria and will be invited to prepare and assemble the dishes. Their recipes and presentations will be assessed after the two-week course.

To be more precise, the mornings will be given over to some

inevitable theoretical considerations. The basic contents of foodstuffs: proteins, glucids and lipids and the products used to prepare and enhance dishes, such as texture or taste additives. In the afternoon sessions, the apprentice cooks will have some hands-on experience in a kitchen unit set up in the UTC premises. On the two Wednesdays and Saturdays, the group will travel to visit the Compiègne area, French cuisine in Paris, the champagne fields in East France and will be able to taste and test the marriage between different wines and cheeses.

Engineers serving the cause of both taste and health

The two weeks that lecturer Claire Rossi will be monitoring and teaching will act as a show-case for agro-resource knowledge and know-how taught in the UTC specialty Innovation, Food and Agro-resources. It is a course offering jobs in R&D in the agro-food industrial sectors, but also openings as quality and food safety engineers or agro-food production engineers. *"A bechamel sauce we prepare in our kitchens is not the same as that produced by industrial processes. There are conservation constraints, food safety and uniform production criteria that must be respected. And this is where an agro-food engineers have a role to play"*, explains the specialist Claire Rossi.

The pedagogical contents of the UTC courses must follow closely the evolution in the industrial sectors and the industrialists themselves must try to meet consumer expectations; they must therefore be renewed continuously. *"The current trend is to do without additive that come from synthesis chemistry and replace them by natural products, all of which leads to new challenges to prepare reproducible and time-stable products"*, she analyses. New colour additives are increasingly popular, produced from beetroot or from chlorophyll and texture additive are now made with rice or tapioca starch. Another important requirement is to balance the nutritional contents faced with customers who are more and more

concerned with their health. Mayonnaise with 80% less fat content, chocolate mousse without sugar, quiche pies without gluten ... several innovative projects are finalized each year by UTC students. The move to adopt healthier industrialized food is a global trend - a Chinese student proposed 'light' raviolis and a Moroccan proposed hyper-protein chorba soup for sports buffs ... a step towards tomorrow's food, a hyper-protein salad dressing enriched with insect-flour has been designed, prepared and presented at UTC.