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### Undergraduate Research Program

<b>Project Name</b>	Phytochemical and prebiotic potential of agave by-products under in vitro gastrointestinal digestion
<b>Campus &amp; Location in Mexico</b>	Toluca
<b>Faculty</b>	Engineering and Science
<b>Research Area</b>	Bioengineering: Biotechnology
<b>Research Responsible</b>	Aurea K. Ramírez Jiménez
<b>Description of the Project</b>	Agave by-products are underutilized parts from the plant and commonly disposed without any further treatment after agave sap collection. Leaves contain an important amount of compounds with potential bioactivity, such as saponins, fiber and oligosaccharides. This project aims to determine the phytochemical profile of leaves and to perform an in vitro gastrointestinal digestion to evaluate the prebiotic potential of the by-product.
<b>Training Provided</b>	Training in HPLC and GC techniques, in vitro methods to perform the gastrointestinal simulation and statistical analysis of data.

#### Offered during:

SUMMER

WINTER

SEMESTER

### Student

<b>Tasks/Responsibilities</b>	Prepare and analyze samples using HPLC and GC, perform the in vitro simulation process.
<b>Required Language Proficiency</b>	English advanced, Spanish basic
<b>Required Skills and Abilities</b>	Knowledge of lab equipments and safety guidelines, good teamworking and analytical skills.
<b>Other Documents</b>	<ol style="list-style-type: none"> <li>1) Being at least in your 2nd year of bachelor</li> <li>2) Accumulative grade point average (GPA) 2.5</li> <li>3) Official Transcript</li> <li>4) 2 letters of recommendation of faculty members</li> <li>5) Resume</li> <li>6) Letter of intention explaining the reason why you would like to participate in the research program</li> </ol>