

Supervisors	Graduation Projects	Description
Saba Saed: faculty member Ahmed Khalid: technician Mohammed Nabeel: technician	Rehabilitation of the Thermal Conductivity Measurement Device for Solid Materials	<p>A thermal conductivity measurement device for solid materials is a tool used to determine how well materials can conduct heat. The device works by measuring the amount of heat that passes through a specific sample of the material over a defined period, which helps in calculating the thermal conductivity coefficient. This device allows researchers and students to understand the efficiency of a material in transferring thermal energy, which is important in many industrial and engineering applications, as well as in the manufacturing of insulating materials.</p>
Saba Saed : faculty member Ahmed Khalid: technician Mohammed Nabeel: technician	Rehabilitation of the Heat Exchanger Device	<p>The absorption unit used in the mass transfer workshop is a tool for studying and determining the behavior of materials when absorbing gases or liquids. This device is widely used in applications like gas processing, chemical reactor design, and understanding chemical reactions.</p>
Saba Saed : faculty member Ahmed Khalid: technician Mohammed Nabeel: technician	Rehabilitation of Sieve Refurbishment	<p>The sieve (or sieving) unit in the mass transfer workshop at the Chemical Engineering Department is a tool used to separate solid materials of different sizes by passing them through meshes or screens with specific openings. This device is essential in chemical preparation and separation processes, where it can be used to improve material quality and reduce impurities.</p>

<p>Dr. Qais Mohammed: faculty member</p> <p>Alaa Aziz: Technician</p>	<p>Converting Plastic Materials into Fuel</p>	<p>The process of producing liquid fuel from plastic waste involves several steps. First, plastic waste is collected and separated from other waste. Then, the plastic is broken down into small pieces and heated in a special reactor. This process uses a technique called "pyrolysis," where the plastic is converted into gases and liquids.</p>
<p>Dr. Rana Sami: Faculty member</p> <p>Raya Duraid: technician</p>	<p>Estimation of Sulfates in the Tigris River and Their Treatment by Adsorption Using a UV Spectrophotometer</p>	<p>The Tigris River is vital to Iraq, but faces significant pollution from human activity. This project quantifies the pollution, including heavy metals, in the Tigris around Al-Jumhoori Hospital, using samples from three locations. We'll analyze pollution levels against international and Iraqi standards, and treat it using adsorption with lime, calcium hydroxide, activated carbon, and bentonite clays.</p>
<p>Dr. Rawia Zaghlol: faculty member</p> <p>Raya Duraid: technician</p>	<p>Manufacturing Perfumes from Natural Ingredients</p>	<p>Extracting perfume requires vast quantities of flowers; for instance, 125 kilograms of roses yield only one ounce of essential oil. These essential oils have a complex chemical structure, a density lighter than water, and numerous uses beyond perfumes. They can be added to food products, medicines, and cosmetics.</p>
<p>Dr. Rana Sami: Faculty member</p> <p>Raya Duraid: technician</p>	<p>Estimation of Caffeine in Energy Drinks by UV Spectrophotometry and High-Performance Liquid Chromatography (HPLC)</p>	<p>Caffeine has benefits but can be harmful in excess. While up to 400 mg daily is generally safe for adults, beware of variable caffeine content in drinks, especially energy drinks. The FDA warns that concentrated powdered or liquid caffeine is dangerous, with a single teaspoon equivalent to about 28 coffees, posing serious health risks.</p>
<p>Dr. Wijdan Mohammed: faculty member</p> <p>Salwa Matta: technician</p>	<p>Preparing Liquid Soap from Environmentally Friendly Materials</p>	<p>This project aims to develop a safe and sustainable personal cleaning product. It will be based on natural, biodegradable ingredients, utilizing vegetable and natural essential oils. The project focuses on eliminating harmful chemicals like sulfates and paraffin, making it a healthy and sustainable alternative.</p>