



**Faculty of Engineering**  
**Department of Biomedical Engineering**

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**03**

**Thermal Sensors**

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**BME 312**

**Biomedical Instrumentation II**

# THERMOELECTRIC EFFECT

- The thermoelectric effect is the direct conversion of temperature differences to electric voltage and vice versa.

# Thermoelectrics: Basic Principles

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# The Peltier Effect

- The Peltier Effect can be considered as the back-action counterpart to the Seebeck Effect

# The Peltier Effect

- The Peltier Effect is the presence of heating or cooling at an electrified junction of two different conductors.

# Thermocouple Example

- Design a Thermocouple,.

# THERMOPILE

- A THERMOCOUPLE is a device for measuring temperature