

Nora Dabbagh

Chicago, IL | ndabb@uic.edu

EDUCATION

University of Illinois Chicago

Bachelor of Science in Biomedical Engineering

Chicago, IL

Expected May 2028

GPA: 3.77/4.00

Honors: Tau Beta Pi Engineering Honor Society, Invited Fall 2026 (top eighth of junior class)

Relevant Coursework: Medical Technology Assessment (FDA device regulation), Clinical Problems in Biomedical Engineering, Modeling Physiological Data and Systems, Circuit Analysis

ENGINEERING PROJECTS

AI-Guided Tenecteplase Auto-Injector

Fall 2025

Clinical Problems in Biomedical Engineering, UIC | 5-week design concept

- Designed an imaging-guided IV auto-injector concept to deliver a clot-dissolving drug outside the hospital.
- Defined design requirements from failure risks in injection accuracy, sterility, drug stability, and workflow.
- Mapped the end-user workflow step by step to identify points where use error could compromise drug delivery.
- Modeled the concept in SOLIDWORKS to communicate component layout and form.

ECG RR-Interval Variability Analysis

Spring 2026

Modeling Physiological Data and Systems, UIC | MATLAB, IEEE-format report and code appendix

- Simulated regular and irregular 10-second ECG signals at 500 Hz in MATLAB with Gaussian waveforms.
- Coded threshold-based local-maximum R-peak detection to locate each heartbeat and calculate RR intervals.
- Distinguished regular from irregular rhythms by RR-interval standard deviation and coefficient of variation.

Post-Surgical Adhesion Removal System

Fall 2025

Clinical Problems in Biomedical Engineering, UIC | 5-week design concept

- Designed a cryogel and targeted-laser concept to separate abdominal adhesion bands without cutting tissue.
- Selected cryogel materials, device structure, and laser parameters from findings in primary literature.
- Reviewed intraoperative usability and safety, including the risk of freezing or burning neighboring organs.

Optogenetic Sensory Restoration Dermal Implant

Fall 2025

Clinical Problems in Biomedical Engineering, UIC | 5-week design concept

- Defined test requirements for heat generation, power, device size, durability, and long-term placement of a light-based implant concept to restore touch after burn injury.

SKILLS

Quality: Risk Assessment, Use-Error Analysis, Design Requirements, Test Planning

Engineering: Medical Device Design, CAD Modeling, Signal Processing, Data Analysis, Technical Writing

Software: MATLAB, SOLIDWORKS, Arduino, Microsoft Office (Excel, Word, PowerPoint, Outlook)

Laboratory: EEG, EMG, and Force Data Analysis, Equipment Troubleshooting, Lab Safety, Titration, Spectrophotometry, pH Measurement, Solution Preparation

ACTIVITIES

Member: Biomedical Engineering Society (BMES), Society of Women Engineers (SWE), Society of Hispanic Professional Engineers (SHPE), Arab American Association of Engineers and Architects (AAAEA), Palestine Children's Relief Fund (PCRF), Model United Nations at UIC (MUNIC)