I. Renewal Document

I.A. Faculty Advisor's Information

[redacted]

[redacted]

I.B. Ten Core Student BMES Members

Name	Chapter Position	Email
[redacted]	President	[redacted]
[redacted]	Vice President	[redacted]
[redacted]	Professional Development Chair	[redacted]
[redacted]	Service & Outreach Chair	[redacted]
[redacted]	Social & Fundraising Chair	[redacted]
[redacted]	Public Relations Chair	[redacted]
[redacted]	Treasurer	[redacted]
[redacted]	Secretary	[redacted]
[redacted]	General Member	[redacted]
[redacted]	General Member	[redacted]
[redacted]	General Member	[redacted]

I.C. Student Chapter Website Link

https://bmess.org.uiowa.edu/

I.D. One Free Student Membership Information

New Membership or Renewal	Name	Email	Graduation Year	Chapter Position (if applicable)
New	[redacted]	[redacted]	[redacted]	New Public Relations Chair

Biomedical Engineering Society at the University of Iowa
For the 2025-2026 Academic Year

Executive Summary

The University of Iowa (UIOWA) Chapter of the Biomedical Engineering Society (BMES) is a student-led organization dedicated for individuals with an interest in the biomedical engineering field who would like to further their career through networking, participating in design competitions, or learn more about the path to industry or graduate school. To support personal and professional growth we offer networking opportunities, service opportunities, technical workshops, and more.

For the 2025-2026 Academic Year, we officially joined BMES as a student chapter. This action was intended to complement internal efforts to increase continued attendance and engagement from general members. We intensified efforts to engage our members by requiring each to join one of our three committees—Professional Development, Service and Outreach, or Social and Fundraising—to coordinate with committee chairs to plan, run, or otherwise organize events. We also sought to provide greater outreach and networking opportunities; a new event we hosted this year was a Student-Faculty Mixer with BME Faculty from multiple disciplines. The goal of this event was to foster early connections between students and faculty. We hope to make this an annual event. Another major facet of our organization is to develop technical skills. Our Design Team incorporates medical device development practices learned from upper-level coursework to provide underclassmen with a framework for prototyping. Last year our focus was on developing a device to improve the replantation rate of severed digits, and this year we expanded our focus to improve replantation rates of severed limbs. This year we also attended the 8th Annual National Medical Device Make-a-Thon at the University of Texas at Austin. We sent 11 students split between 2 teams; one of these teams placed 3rd out of 35 teams. While in Austin, we also provided opportunities for professional growth and engagement with visits to Abbott and the Medical Sales College. In April we plan to continue our annual tradition of a Professional Trip in the Spring semester. This year we will be touring Forj Medical in Minnesota. This trip always provides an opportunity for professional growth as well as the development of friendships within our organization.

In the future, BMES at UIOWA will continue to encourage connection among our student members while providing opportunities for them to develop technical skills, connections to our community, and relationships with faculty.

Corresponding Author

[redacted]

Faculty Advisor

[redacted]

IOWA

Dear Student Chapter Award Committee Members,

The Biomedical Engineering Student Society (BMESS) at the University of Iowa has shown tremendous growth over the past year through professional development, relationship building, and community engagement. While BMESS has been a staple within our department for many years, this is the first year since AY2019-2020 where our organization was registered as an official chapter of the Biomedical Engineering Student Society. We are excited to partner with BMES and share our accomplishments through this report and I highly recommend renewal of our chapter for next year.

Our chapter has been working on increasing member retention and engagement as well as increasing opportunities for technical and professional development. In terms of technical development, the Design Team has expanded immensely this year. While the Design Team has historically been an annual practice where a group of students meet weekly to solve a biomedical engineering design challenge, this year and last year the team has been revitalized. This year the team developed a Severed Limb Transportation Kit (building on last year's Severed Digit Transportation Kit) which provided opportunities for members to develop their solid modeling, rapid prototyping, and communication skills. The team partnered with the University of Iowa's John Pappajohn Entrepreneurial Center to present their project to a panel of judges and receive valuable feedback. In fall of 2026, the team hopes to present their idea to the Iowa Emergency Medical Sales Association with a goal of providing an open-source concept that can be adopted by manufacturers interested in advancing limb transport technology. Throughout this process, the members of the Design Team have developed their interpersonal and technical skills, which are both valuable tools for biomedical engineers.

In March, we sent 11 members (representing two teams) to the National Medical Device Make-A-Thon at the University of Texas at Austin. We are excited to report that one of the teams placed 3rd in the competition (out of 36 teams) for their device to improve first-time success of neonatal intubation procedures. While in Austin, the group toured two biomedical industries, providing members with valuable career exploration and networking opportunities. The experience strengthened relationships between the members and increased visibility of the UI BME program at the national level.

A highlight of the fall semester was the inaugural BMESS Faculty Mixer. This informal gathering enabled BME faculty members and students to build connections and learn more about each other in a relaxed and social environment. The event fostered engagement between faculty and students with similar academic and research interests.

BMESS members initiated several outreach activities to share the excitement of the biomedical engineering field to a younger generation through local science nights at elementary schools and other engineering social events. The chapter is also making a societal impact through the service projects with the University of Iowa Stead Family Children's Hospital Child Life program and the local animal shelter. An area of improvement for next year is to increase committee involvement. Our chapter has three committees: Professional Development, Service and Outreach, and Social and Fundraising. Increasing committee involvement will allow general members more input into the chapter activities. The previously mentioned service project with the Child Life program was suggested by a general member, and we are hoping to encourage increased engagement for all members in the future.

Overall, BMESS has made a positive impact at the University of Iowa and provides biomedical engineering students opportunities for professional growth and service outside of their academic program. BMESS embodies our College of Engineering motto of becoming "engineers…and something more" where we encourage students to enhance their strong technical education through involvement in service, leadership, and the surrounding community.

Sincerely,

[redacted]

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Abstract

The members of the BMES Executive Board serve as the representatives and leaders of the organization. The Executive Board for the 2025-2026 Academic Year is made up of one President, one Vice President, one Secretary, one Treasurer, one Professional Development Committee Chair, one Social and Fundraising Committee Chair, one Service and Outreach Committee Chair, and one Public Relations Chair. The requirement for candidacy for the Executive board positions is membership in UIOWA BMES. Each of the Committee Chairs works to plan events centered around their respective responsibility, such as workshops, professional speakers, socials, fundraisers, and service work. As the chapter grows and responsibilities shift, new board positions may be added. This year we added the position of a Design Team Assistant to assist the Vice President with planning and facilitating Design Team meetings. All Executive Board Members attended weekly board meetings. General members are encouraged to participate in their chosen committees and activities.

BMES at the UIOWA is open for all students interested in Biomedical Engineering, regardless of major or background. The chapter also collaborates with other Engineering Student Organizations to support a variety of events.

V.A. Executive Board Information

The Executive Board for the 2025-2026 Academic Year is made up of one President, one Vice President, one Secretary, one Treasurer, one Professional Development Committee Chair, one Social and Fundraising Committee Chair, one Service and Outreach Committee Chair, and one Public Relations Chair. Table 1 displays the breakdown of the Executive Board and summarizes each position's responsibilities.

Table 1: 2025-2026 Executive Board

Position	Officer	Responsibilities
President	[redacted]	Serves as the primary contact. Is responsible for scheduling and providing introduction at all meetings. Must prepare a documented agenda for each board meeting. Helps executive members with event planning as needed.
Vice President	[redacted]	Serves as primary contact for general members. Coordinates and leads BMESS Design Team operations.

Secretary	[redacted]	Documents meeting notes. Maintains and updates documentation on a regular basis. Maintains and updates website. Keeps track of attendance points. CDR Editor
Treasurer	[redacted]	Documents all transactions. Approves budget requests.
Professional Development Committee Chair	[redacted]	Finds and creates networking opportunities. Plans guest speaker events.
Social and Fundraising Committee Chair	[redacted]	Finds and creates social and fundraising opportunities.
Service and Outreach Committee Chair	[redacted]	Finds and creates service and outreach opportunities.
Public Relations Chair	[redacted]	Updates social media accounts weekly with meeting information and special events. Takes pictures at organization events. Updates College of Engineering bulletin board monthly with organization updates and meeting schedule.

V.B. Membership Breakdown

Undergraduate and graduate students of all majors are welcome to become members of BMES at UIOWA.

BMES at UIOWA has 26 general members

V.C. National BMES Membership

Table 2: National BMES Membership Breakdown

Name	Chapter Position	Email
[redacted]	President	[redacted]
[redacted]	Vice President	[redacted]
[redacted]	Professional Development Chair	[redacted]
[redacted]	Service & Outreach Chair	[redacted]
[redacted]	Social & Fundraising Chair	[redacted]

[redacted]	Public Relations Chair	[redacted]
[redacted]	Treasurer	[redacted]
[redacted]	Secretary	[redacted]
[redacted]	General Member	[redacted]
[redacted]	General Member	[redacted]
[redacted]	General Member	[redacted]

V.D. Executive Board Meetings

Executive Board meetings were held weekly each semester. In the Fall, these meetings were Thursday evenings. In the Spring, these meetings were Tuesday evenings before general meetings. Our secretary took notes and kept track of developments and planning. Committee Chairs shared information about their events, including itinerary, slides, and if they needed assistance from other Board Members.

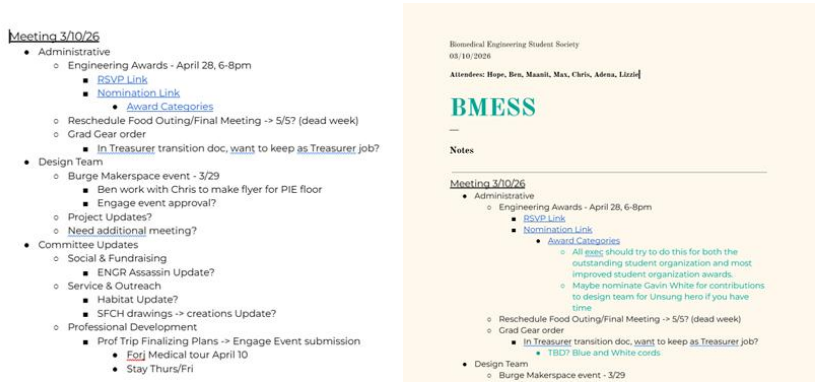

Figure 1: *Left Image:* Example of Executive Board Meeting Agenda*, Right Image:* Example of Executive Board Meeting Notes

The table below contains the dates of the Executive Board Meetings for each semester.

Table 3: Executive Board Meeting dates for the 2025-2026 Academic Year.

Fall	Spring
8/28/25	1/20/25
9/4/25	1/27/26
9/11/25	2/3/26
9/18/25	2/10/26
9/25/25	2/17/26
10/2/25	2/24/26

10/9/25	3/3/26
10/16/25	3/10/26
10/23/25	3/24/26
10/30/25	3/31/26
11/6/25	4/7/26
11/13/25	4/14/26
12/4/25	4/21/26

Board Meetings follow an agenda prepared by the President based on upcoming events. The document consists of upcoming events for each committee, broader College of Engineering events, and other updates. Time is also allotted at the end of each meeting for any Board Member to present pertinent developments or concerns.

As in previous years, a shared calendar was created to outline events and important deadlines for each semester.

Spring 2026

Sunday	Monday	5:15 - Exec Meeting 7:30 - General Meeting Tuesday	Wednesday	Thursday	Friday	Saturday
		Design Team - Product Pitching w/ Janice Baldes			Dinner- Family outing @ Micky's?	
2/22	2/23	2/24	2/25	2/26	2/27	2/28
	Brandon Mateika & Dinner @ BELL	Focus Area Night				
3/1	3/2	3/3	3/4	3/5	3/6	3/7
		Design Team- Adam/MDM Prep	Leave for Make-A-Thon	Medical Sales College Visit	MDM-Abbott visit	MDM
3/8	3/9	3/10	3/11	3/12	3/13	3/14
MDM (fly back)		Game Night (IMU) (Esports Lounge reserved!)	BME Trek to Twin Cities	BME Trek to Twin Cities	BME Trek to Twin Cities	
3/15	3/16	3/17	3/18	3/19	3/20	3/21
Spring Break	Spring Break	Spring Break	Spring Break	Spring Break	Spring Break	Spring Break
3/22	3/23	3/24	3/25	3/26	3/27	3/28
		Figure making competition/Present Roles				Engineering Visit Day
3/29	3/30	3/31	4/1	4/2	4/3	4/4
Makerspace Event		Elections		West Liberty Science Night 5:30-7:30		
4/5	4/6	4/7	4/8	4/9	4/10	4/11
		Design Team		Penn Elementary Science Night	Research Open House & Forj Medical/Spring Trip	Spring Trip
4/12	4/13	4/14	4/15	4/16	4/17	4/18
Spring Trip		Research Night	Submit BMES CDR			

Figure 2: A sample image of the shared calendar

V.E. General Meetings

General Meetings were held in the second week of classes in the Fall and Spring semester. The first meeting of each semester included key information about our organization and fun welcoming and recruitment activities. In the Fall we tested attendees with UIOWA Trivia, with the winners receiving 3D-printed trophies of our school mascot. In the Spring we decided to

enforce committee membership to instill a sense of responsibility in our members. After presenting each committee's roles and responsibilities, general members decided which group they would like to be a part of. Each committee then played as a team in a game of Jeopardy.

Table #: General Meeting dates for the 2025-2026 Academic Year.

Semester	Date and Time	Agenda
Fall	9/2/25 7:30 PM – 8:30 PM	Welcome to BMES!
Spring	1/27/26 7:30 PM – 8:30 PM	Committee Assignment + Jeopardy
Spring	3/31/26 7:30 PM – 8:30 PM	Officer Elections

V.E.i. Fall General Meeting: Welcome to BMES!

Each year, BMES at UIOWA hosts our first General Meeting during the second week of the Fall Semester, after the Engineering Welcome Fair. The purpose of this meeting is to introduce our organization, our purpose, our committees, and our board members. We also include details of large events we host each year, such as our Spring Trip and Design Team. After introductions we shifted to Trivia as our social activity.

Date	Audience	Attendance	Cost
9/2/25 7:30 PM – 8:30 PM	Undergraduate Students Graduate Students	26	$79.20

V.E.ii. Spring General Meeting: Committee Assignment + Jeopardy

Our Spring General Meeting is also held during the second week of the semester. This meeting is important as we outline major events for the spring semester and build a foundation for our mid-year joiners.

Date	Audience	Attendance	Cost
1/27/26 7:30 PM – 8:30 PM	Undergraduate Students Graduate Students	19	$71.92

V.E.iii. Spring General Meeting: Officer Elections

Our Officer Election meeting is also held during the second semester. This meeting is important as it is where officer candidates present their platforms and members vote to decide next year's executive board.

Date	Audience	Attendance	Cost
3/31/26 7:30 PM – 8:30 PM	Undergraduate Students Graduate Students	19	$71.92

VI. Treasury Report

The Treasurer manages all financial operations and accounts.

VI.A. Chapter Balance Sheet

	Fall 2025	Spring 2026
Starting Balance	[redacted]	[redacted]
Expenses	[redacted]	[redacted]
Deposits	[redacted]	[redacted]
Net Balance	[redacted]	[redacted]

VI.B. Primary Means of Revenue

Below is a breakdown of revenue and funds earned throughout the year by event.

Event	Net Amount Raised
Apparel Sale	[redacted]
Fall 2025 Engineering Career Fair	[redacted]

VI.B.i. Apparel Sale

We had 40 orders for our college-wide apparel sale, generating a total of [redacted] in revenue. From this, our club earned $470.17, which corresponds to approximately 24.27% of the total proceeds of the apparel sale. Overall, this was a successful fundraiser, especially given its reach across the College of Engineering. The level of participation demonstrates strong interest in BMESS-branded apparel and provides a good foundation for future sales. Moving forward, there is an opportunity to increase profitability by reassessing pricing strategies, exploring alternative vendors, and offering a wider range of items that better align with member preferences.

Commented [NK1]: Should this be (470.17/1937.08) to determine the percent of the proceeds? Otherwise, I'm not sure what the 4.1% represents.

VI.B.ii. Fall 2025 Engineering Career Fair

We had 10 volunteers participating in the Fall 2025 Engineering Career Fair, each contributing a deposit of approximately $22.55 from the College of Engineering and the University of Iowa's Student Government. This fundraiser required minimal planning while still generating funds and increasing BMESS visibility at a key college-wide event. It also allowed members to engage in a setting that supports their professional development. In the future, we could improve this effort by coordinating earlier to secure additional volunteer spots and increase overall participation, ultimately maximizing both engagement and funds raised.

Commented [NK2]: What is the mechanism that provides income for this? Do the student orgs provide volunteers and the COE provides funds for the org in return? Describing this in more detail would help clarify.

VII. Chapter Activities

Abstract

The Biomedical Engineering Student Society (BMESS) at UIOWA provided a comprehensive experience this year by integrating technical design, professional development, social engagement, and community outreach. A central pillar of our programming was the Design Team initiative, which guided members through the entire engineering lifecycle-from formulating need statements and functional requirements to mastering a Creo Workshop and utilizing decision matrices. This technical track culminated in a Medical Device Make-a-thon and an industry trip to Abbott, offering students hands-on application of their coursework.

To bridge the gap between academia and industry, we hosted professional speakers David Simoens and David Frazee, alongside dedicated Focus Area and Research Nights to help students navigate their career paths. Our commitment to the Iowa City community was evidenced through outreach at West Liberty and Penn Elementary Science Nights, as well as service projects like dog toy making and goodie bag construction. Socially, BMESS fostered a tight-knit community through the "BMESS Ballers" intramurals, a homecoming parade celebration, and collaborative events like pumpkin painting with NEXUS Artineers. By balancing rigorous professional preparation, such as resume workshops and Carver Lab tours, with a supportive social environment, BMESS successfully equipped its members to become competitive candidates inside an evolving medical landscape.

VII.A. Fall 2025 Events Summary

Date	Event	Category
9/2/25	College of Engineering Fair	Social or Other
9/2/25	First General Meeting	Social or Other
9/9/25	Career Fair Prep	Industry and Professional Development
9/16/25	Design Team – Need Statement	Societal Impact
9/18/25	BME Faculty Mixer	Mentoring and Industry and Professional Development
9/23/25	Goodie Bag Construction	Outreach
9/23/25	Goose Chase	Social or Other
9/26/25	Party After Homecoming Parade	Outreach and Social or Other
9/30/25	Design Team – Functional Requirements	Societal Impact
10/7/25	Mindfulness Night	Social or Other
10/9/25	Design Team – Concept Generation	Societal Impact
10/14/25	Design Team – Creo Workshop	Societal Impact
10/21/25	Professional Speaker – David Simoens	Industry and Professional Development

10/23/25	Design Team – Decision Matrix	Societal Impact
10/28/25	Pumpkin Painting with NEXUS Artineers	Social or Other
11/4/25	Design Team – EMS Interview/Concept Adjustment	Societal Impact
11/5, 11/12, 11/19, 12/3/25	BMESS Ballers	Social or Other
11/11/25	Dog Toy Making	Outreach
11/13/25	Design Team – Prototyping	Societal Impact
11/15/25	Engineering Visit Day	Outreach
11/18/25	Carver Lab Tour & Laser Cutting	Social or Other and Societal Impact and Mentoring
12/2/25	Professional Speaker – David Frazee	Industry and Professional Development
12/4/25	Design Team – Planning and Prototyping	Societal Impact
12/9/25	Study Night & Cookie Decorating	Social or Other

VII.B. Spring 2026 Events Summary

Date	Event	Category
1/27/26	Committee Assignments & Jeopardy	Social or Other
2/3/26	Design Team – Previous Semester Review and Design Challenge	Societal Impact
2/10/26	Resume Workshop	Industry and Professional Development
2/11/26	Student Org Networking	Industry and Professional Development
2/17/26	Design Team – John Pappajohn Entrepreneurial Center Presentation	Societal Impact
2/20/26	Dinner Outing	Social or Other
2/24/26	Focus Area Night	Societal Impact and Mentoring
3/3/26	Design Team – Medical Device Make-A-Thon Prep Meeting	Societal Impact
3/5/26-3/8/26	Medical Device Make-a-thon and Abbott Trip	Societal Impact and Industry and Professional Development
3/10/26	Game Night	Social or Other
3/24/26	Figure Making/ Present	Outreach
4/2/26	West Liberty Science Night	Outreach
4/7/26	Design Team – Traumatic Amputee Interview and Final Prototype Planning	Societal Impact
4/9/26	Penn Elementary Science Night	Outreach

4/10/26-4/11/26	Spring Trip	Industry and Professional Development
4/14/26	Research Night	Industry and Professional Development and Mentoring
4/16/26*	Design Team – High Fidelity Prototyping	Societal Impact
4/21/26*	Design Team – Final Meeting	Societal Impact
4/28/26*	Final Meeting (Dinner Outing)	Social or Other

*Future Events

VIII. Social or Other Activities

Throughout the 2025–2026 academic year, the BMESS chapter prioritized student well-being and community building through a diverse series of social and recreational events. To foster early connections, the year began with a competitive Goose Chase scavenger hunt to familiarize new members with the engineering building. Mid-semester stress relief was supported through collaborative activities like pumpkin painting with NEXUS Artineers and an intramural basketball team, the BMESS Ballers. Academic success and peer mentoring were strongly encouraged via a pre-finals study night and cookie decorating event that organically formed student study groups. In the spring semester, informal dinner outings and a pre-spring break Game Night at the university's esports lounge provided ongoing opportunities for casual networking and relaxation. The academic year will culminate in an annual final dinner to celebrate chapter accomplishments and present awards to outstanding members. Overall, these engaging, low-barrier activities successfully cultivated a strong, supportive peer network among undergraduate biomedical engineering students.

Table 5: List of Social or Other Activities.

Date	Event
9/23/25	Goose Chase
10/28/25	Pumpkin Painting with NEXUS Artineers
11/5, 11/12, 11/19, 12/3/25	BMESS Ballers
12/9/25	Study Night & Cookie Decorating
1/27/26	Committee Assignments and Jeopardy
2/20/26	Dinner Outing
3/10/26	Game Night
4/28/26*	Final Meeting (Dinner Outing)

*Future Event

VIII.A. Goose Chase

As a welcome activity to our chapter and the engineering building, we did a fun scavenger hunt where members had to find certain locations and answer a question or take a fun group picture. The app Goose Chase was used to upload images and track task completion. We also made it a fun competition where the teams raced against each other to get through the tasks the fastest. There was also a shout out to the best/most creative picture. It was a fun event where new and returning members could get to know each other while getting introduced to our BMESS chapter.



Date	Audience	Attendance	Cost
9/23/25 8:00 PM – 8:30 PM	Undergraduate Students Graduate Students	17 Undergraduate Students	$0.00

VIII.B. Pumpkin Painting with NEXUS Artineers

Pumpkin Painting was a fun Halloween activity where we partnered with another University of Iowa Engineering organization. Members of both organizations were able to customize a pumpkin or two while watching a Halloween movie. It was a great way for members in both groups to meet other students in engineering. It was a fun laid back event during the start of midterms where students could take a break from studying and homework.

Date	Audience	Attendance	Cost
10/28/25 7:30 PM – 8:30 PM	Undergraduate Students Graduate Students	14 Undergraduate Students	$114.56

VIII.C. BMESS Ballers

BMESS Ballers was our chapter's intermural basketball team which played on Wednesday nights. It was open to whoever wanted to get back into sports or take a break from school. We played against other people throughout the entire University of Iowa and showed them what BMESS is all about.

Date	Audience	Attendance	Cost
11/5, 11/12, 11/19, 12/3/25 7:30 PM – 8:30 PM	Undergraduate Students Graduate Students	8 Undergraduate Students	$0.00

VIII.D. Study Night & Cookie Decorating

To end our first semester, we hosted a study night with the option to snack and decorate cookies. This was hosted a week before finals week, and it was a great way for younger students to get

help and advice from the older ones about finals or classes. An added benefit was that a few study groups were formed by students who were in the same classes.

Date	Audience	Attendance	Cost
12/9/25 7:30 PM – 8:30 PM	Undergraduate Students Graduate Students	21 Undergraduate Students	$67.36

VIII.E. Dinner Outing

Outside of our normal meeting times we hosted a dinner where members could get food together.. It was a casual event where those who wanted to join could, and it was another great way for all the members to get to know each other.

Date	Audience	Attendance	Cost
2/20/26 7:30 PM – 8:30 PM	Undergraduate Students Graduate Students	4 Undergraduate Students	$0.00

VIII.F. Game Night

As a fun event before spring break, we reserved the University of Iowa's esports lounge for our BMESS chapter. At this event members had the option to play arcade games, the Wii, Nintendo Switch, Xbox, and many other gaming options. There were multiple games of Mario Kart going on along with Super Mario Bros. Everyone was able to have fun, and it was nice because there were games for everyone.

Date	Audience	Attendance	Cost
3/10/26 7:30 PM – 8:30 PM	Undergraduate Students Graduate Students	10 Undergraduate Students	$0.00

VIII.G. Final Dinner Outing

As a last hooray, our chapter does an annual food outing at the last meeting. It is a great way to celebrate all our accomplishments throughout the year. It is also a last bonding experience for our chapter and at this dinner outing we award our unheard heroes along with our top attendance members.

Date	Audience	Attendance	Cost
4/28/26 7:30 PM – 8:30 PM	Undergraduate Students Graduate Students	TBD	$0.00

IX. Inter-Chapter Activities

This year, the University of Nebraska set up a Big10 Teams channel to facilitate connections between BMES chapters. They also planned a Big10 BMES Meetup as an opportunity for chapters from different universities to connect and learn from each other. We are hoping to grow these connections in future years.

Table 6: List of Inter-Chapter Activities

Date	Event
4/20/2026*	Big10 BMES Meetup

*Future Event

IX.A. Big10 BMES Meetup

The University of Nebraska planned a meetup between Big10 BMES chapters during the Design of Medical Devices Conference at the University of Minnesota. This event included guest speakers, presentations from chapters, and networking. There was also a virtual option for members who could not attend in person.

X. Outreach Activities

During the 2025–2026 academic year, the University of Iowa Biomedical Engineering Student Society (BMESS) actively engaged in community STEM outreach across three primary events: the College of Engineering Homecoming celebration, West Liberty Elementary Science Night, and Penn Elementary Science Night. Reaching diverse audiences—including alumni families, elementary students, and university peers—BMESS designed an interactive exhibition highlighting the four core biomedical engineering focus areas. These hands-on displays featured an X-ray matching game (bioimaging & bioinformatics), a computational lung model (computational bioengineering), tangible medical devices including a prosthetic leg (biomaterials & biomechanics), and cellular microscopy (cellular bioengineering). To incentivize learning, BMESS members guided younger participants through the exhibits, rewarding those who articulated a newly learned fact with goodie bags containing toys, encouraging notes, and candy. Through these collaborative, accessible community initiatives, BMESS successfully fostered early interest in STEM and effectively communicated the scope and impact of biomedical engineering to the broader public.

Table 7: List of Outreach Activities

Date	Event/Activity
9/26/2025	Homecoming Party After the Parade Stand
4/2/2026	West Liberty Elementary Science Night
4/9/2026	Penn Elementary Science Night

X.A. Homecoming Party After the Parade Stand

Following the conclusion of the University of Iowa homecoming parade, the College of Engineering hosts an event for faculty, alumni, and their families. Student organizations are given the opportunity to share what their organization does to this younger generation. BMESS has consistently maintained a table at this event. This year there was a display for each of the four focus areas within the University of Iowa biomedical engineering program. The bioimaging & bioinformatics had an X-ray matching game for children under 5 years old, the computational bioengineering had a computer model of the lung exhaling and inhaling, the biomaterials & biomechanics had various medical devices including a prosthetic leg, and finally cellular bioengineering had a microscope with some cells for participants to look at. The BMESS member that is at this event leads the children and their parents through each area, and if they are able to tell the member one thing they learned from the stand, they receive a goodie bag. These goodie bags include a toy like Legos or Playdoh, a sticky note containing words of encouragement, and some candy.

Date	Audience	Attendance	Cost

9/26/25 6:00 PM – 8:00 PM	Professors, Alumni, and their children	26	$102.03

X.B. West Liberty Elementary Science Night

The West Liberty Elementary School hosts this event for their students and their families. Student organizations at the University of Iowa are given the opportunity to share what their organization does to this younger generation. BMESS has consistently maintained a table at this event. This year there was a display for each of the four focus areas within the University of Iowa biomedical engineering program. The bioimaging & bioinformatics had an X-ray matching game for children under 5 years old, the computational bioengineering had a computer model of the lung exhaling and inhaling, the biomaterials & biomechanics had various medical devices including a prosthetic leg, and finally cellular bioengineering had a microscope with some cells for participants to look at. The BMESS member that is at this event leads the children and their parents through each area, and if they are able to tell the member one thing they learned from the stand, they receive a goodie bag. These goodie bags include a toy like Legos or Playdoh, a sticky note containing words of encouragement, and some candy.

Date	Audience	Attendance	Cost
4/2/26 5:30 PM – 7:30 PM	West Liberty Elementary students and their parents	4	$0

X.C. Penn Elementary Science Night

The Penn Elementary School hosts this event for their students and their families. Student organizations at the University of Iowa are given the opportunity to share what their organization does to this younger generation. BMESS has consistently maintained a table at this event. This year there was a display for each of the four focus areas within the University of Iowa biomedical engineering program. The bioimaging & bioinformatics had an X-ray matching game for children under 5 years old, the computational bioengineering had a computer model of the lung exhaling and inhaling, the biomaterials & biomechanics had various medical devices including a prosthetic leg, and finally cellular bioengineering had a microscope with some cells for participants to look at. The BMESS member that is at this event leads the children and their parents through each area, and if they are able to tell the member one thing they learned from the stand, they receive a goodie bag. These goodie bags include a toy like Legos or Playdoh, a sticky note containing words of encouragement, and some candy.

Date	Audience	Attendance	Cost
4/9/26 7:30 PM – 8:30 PM	Undergraduate Students Graduate Students	3	$0.00

XI. Mentoring Activities

Abstract

BMES at UIOWA fosters mentoring by integrating peer-led academic guidance with hands-on technical training. Core events like Focus Area and Research Nights serve as vital mentoring touchpoints, where upperclassmen provide advice on navigating BME focus areas and securing lab positions. Technical workshops, including the Creo Workshop and Carver Lab Tour, facilitate organic skill-sharing between experienced and new members.

Table #: List of Mentoring Activities

Date	Event
9/18/25	BME Faculty Mixer
11/18/25	Carver Lab Tour & Laser Cutting
2/24/26	Focus Area Night
4/14/26	Research Night

XI.A. BME Faculty Mixer

The BME Faculty Mixer served as an informal networking forum with food where students connected with department professors and researchers outside of the traditional classroom setting. These interactions allowed members to explore potential undergraduate research opportunities and gain firsthand insight into the diverse career paths within the biomedical field. By fostering these professional relationships early on, the event helps students build a supportive academic network that extends throughout their time at UIOWA.

Date	Audience	Attendance	Cost
9/18/25	Undergraduate Students Graduate Students	40	$276.00

XI.B. Carver Lab Tour & Laser Cutting

This event provides students with a behind-the-scenes look at the Carver Medical Device Design Laboratory, a facility dedicated to prototyping and engineering innovation. Participants receive hands-on training on the safety protocols and software required to operate the lab's high-precision laser cutting systems. To put their new skills into practice, every attendee used the laser cutter to create a custom BMES plastic cutout.

Date	Audience	Attendance	Cost
11/18/25	Undergraduate Students Graduate Students	15	$0.00

XI.C. Focus Area Night

Focus Area Night is designed to help students navigate the four specialized tracks within the Iowa BME curriculum: Bioimaging, Biomechanics & Biomaterials, Cellular Engineering, and Computational Bioengineering. Upperclassmen share their experiences and course recommendations to assist younger students in choosing the specialization that best aligns with their career goals. This event simplifies the academic planning process, ensuring that every member has a clear roadmap for tailoring their degree to their specific interests in the biomedical engineering field.

Date	Audience	Attendance	Cost
2/24/26	Undergraduate Students Graduate Students	20	$0.00

XI.D. Research Night

Research Night connects underclassmen with experienced peers active in UIOWA BME research labs to demystify the research process. Upperclassmen share their daily responsibilities and provide a practical roadmap for securing positions, including tips on cold-emailing faculty and earning academic credit. This session transforms classroom theory into professional insight, helping newer members confidently navigate their own research journeys.

Date	Audience	Attendance	Cost
4/14/26	Undergraduate Students Graduate Students	15	$0.00

XII. Industry or Professional Development Activities

Abstract:

The Biomedical Engineering Society chapter at the University of Iowa fosters professional development by offering a comprehensive range of events that prepare students for careers in biomedical engineering and build strong industry connections. Beginning with Career Fair Preparation (09/09/2025), students develop essential skills in resume building and professional communication, followed by insights from industry speakers such as David Simoen (10/21/2025) and David Frazee (12/02/2025). In the spring, programming continues with a Resume Workshop (02/10/2026) and direct industry engagement through an Employer Visit with Abbott and a networking event with Mark Webber (03/05/2026), culminating in a Spring Professional Development Trip to Resolution Medical (04/10/2026). Together, these initiatives create a well-rounded professional development environment that equips students with the knowledge, skills, and connections needed to successfully transition into the biomedical engineering industry.

Table 9: List of Industry or Professional Development Activities

Date	Event
09/09/2025	Career Fair Prep
10/21/2025	Professional Speaker - David Simoen
12/2/2025	Professional Speaker - David Frazee
02/10/206	Resume Workshop
03/05/2026	Employer Visit - Abbott
03/05/2026	Networking Event – Mark Webber
04/10	Spring Professional Development Trip – Resolution Medical

XII.A. Career Fair Prep

This event was held the week of the engineering career fair with the goal of preparing students to make the most of the opportunity. We shared practical tips and strategies to help students stand out when speaking with recruiters, including how to introduce themselves, ask thoughtful questions, and follow up after conversations. We also discussed how to build a professional LinkedIn profile and explained why maintaining an active online presence can significantly strengthen a job search and help students connect with professionals in their field.

Date	Audience	Attendance	Cost
09/09/26 7:30 PM – 8:30 PM	Undergraduate Students Graduate Students	34	0

XII.B. Professional Speaker – David Simoen

David Simoen, a University of Iowa alumnus, joined us as a professional speaker to share insights from his career in the life sciences industry. He is the founder and CEO of Life Science Professionals, LLC, a consulting firm focused on supporting organizations in the pharmaceutical and biotech sectors. During the session, he discussed his professional journey, lessons learned from starting and leading a consulting company, and advice for students interested in pursuing careers in the pharmaceutical and life science industries.

Date	Audience	Attendance	Cost
10/21/2025 7:30 PM – 8:30 PM	Undergraduate Students Graduate Students	19	0

XII.C. Professional Speaker – David Frazee

David Frazee, a member of the advisory board for the Roy J. Carver Department of Biomedical Engineering at the University of Iowa, spoke to students about his extensive career in the medical device industry. Prior to retirement, he served as Chief Technology Officer at 3M and played a key role in developing the company's digital oral care business. During his talk, he shared perspectives on innovation in medical technology, the evolution of the industry, and valuable advice for students interested in engineering leadership and product development.

Date	Audience	Attendance	Cost
12/2/2025 7:30 PM – 8:30 PM	Undergraduate Students Graduate Students	13	$0.00

XII.D. Resume Workshop

College of Engineering Peer advisors who are trained in resume review joined one of our meetings to host a hands-on resume workshop. They presented best practices for building a strong technical resume, including formatting, highlighting relevant experiences, and tailoring resumes for specific roles. Students were then able to work on their own resumes while receiving individualized feedback and suggestions for improvement to help better prepare them for internships and full-time opportunities.

Date	Audience	Attendance	Cost
02/10/2026 7:30 PM – 8:30 PM	Undergraduate Students Graduate Students	14	$0.00

XII.E. Employer Visit – Abbott Laboratories

As part of our trip to Austin, Texas for a national medical device competition, students had the opportunity to visit Abbott's corporate office. During the visit, representatives from Abbott introduced students to the Clinical Specialist role within their electrophysiology division and discussed the responsibilities and impact of the position. Students were also able to ask questions about career pathways, industry expectations, and what skills are most valuable when entering the medical device field.

Date	Audience	Attendance	Cost
03/05/2025 10:00 a –12:00 pm	Undergraduate Students Graduate Students	12	$0.00

XII.F. Networking Event – Mark Weber

While in Austin, Texas, a group of students met with Mark Weber, an industry expert in medical device sales, particularly within the orthopedic space. During this networking session, he shared insights into orthopedic procedures, how medical devices are evaluated by surgeons, and the importance of designing products that meet real clinical needs. His perspective helped students better understand how engineering design and commercial success intersect in the medical device industry.

Date	Audience	Attendance	Cost
03/05/2025 1:00 PM – 3:00 PM	Undergraduate Students	12	$0.00

	Graduate Students		

XII.G. Spring Professional Development Trip – Resolution Medical

A group of students will be traveling to Minneapolis, Minnesota on April 10 to visit Resolution Medical, a medical device contract development and manufacturing organization (CDMO). During this professional development trip, students will tour the facility and learn about the device development process from concept through manufacturing. The visit will also provide an opportunity to network with engineers currently working in the industry and gain their perspectives on building successful careers in biomedical engineering.

Date	Audience	Attendance	Cost
04/10/2025 1:00 PM – 3:00 PM	Undergraduate Students Graduate Students	9	$1276.68

XIII. Societal Impact Activities

During the 2025–2026 academic year, the BMESS chapter championed meaningful societal impact initiatives alongside a rigorous, year-long engineering design project. Local community outreach included donating tie blankets and crafting upcycled t-shirt toys for the Iowa City Animal Shelter. Additionally, BMESS collaborated with the Stead Family Children's Hospital to transform a pediatric oncology patient's 2D sketch into a tangible, 3D-printed toy through a chapter-wide Creo modeling competition.

The cornerstone of BMESS's technical and professional development was the Design Team's creation of a Severed Limb Transportation Kit. Identifying a critical gap in current emergency medical protocols, the team utilized the biodesign framework to develop a standardized, low-cost transport solution. After extensive prototyping and consulting with EMS professionals and a traumatic amputee, they engineered a three-layer transport system featuring a sterile inner barrier, a water-activated cooling layer, and a pressurized protective air chamber. BMESS is developing this device as an open-source concept to improve global replantation outcomes and plans to present the final high-fidelity prototype to the Iowa Emergency Medical Services Association in November 2026. These combined efforts highlight BMESS's dedication to compassionate community service and life-saving medical innovation.

Table 10: List of Societal Impact Activities

Date	Event
9/16/2025	Design Team – Need Statement Formation
9/30/2025	Design Team – Functional Requirements
10/9/2025	Design Team – Concept Generation
10/9/2025	Tie Blanket Donation + Visit to Animal Shelter
10/14/2025	Design Team – Creo Solid Modeling Workshop
10/23/2025	Design Team – Decision Matrix
11/4/2025	Design Team – EMS Interview/Concept Adjustment
11/11/2025	Dog Toy Making Event for Animal Shelter
11/13/2025	Design Team – Prototyping
11/18/2025	Design Team – Medical Device Design Laboratory Tour & Laser Cutting Demonstration
12/4/2025	Design Team – Planning for Next Semester and Prototyping
1/27/2026	Design Team Recap/Discuss Previous Semester and Future Plans
2/17/2026	Design Team – Product Pitching w/ Janice Baldes from John Pappajohn Entrepreneurial Center

2/23/2026	Design Team – Product Pitch Practice w/ Brandon Mateika at the Bedell Entrepreneurial Learning Laboratory
3/3/2026	Design Team – Medical Device Make-A-Thon Prep Meeting with Adam Holmes
3/24/2026	Create a Figure for Stead Family Children's Hospital
3/29/2026	Design Team – Design Challenge in Burge Hall Makerspaces
4/7/2026	Design Team – Traumatic Amputee Interview and Final Prototype Planning
4/16/2026*	Design Team – High Fidelity Prototyping
4/21/2026*	Design Team – Final Meeting

*Future Events

XIII.A. Tie Blanket Donation + Visit to Animal Shelter

Having leftover tie blankets that were constructed the previous year, BMESS decided to donate these blankets to the Iowa City Animal Shelter. Since they were donating these blankets, they also managed to coordinate some hangout time with some of the animals. They were able to sit and hangout with three playful cats for about thirty minutes, and the next thirty minutes was spent playing outside with a very high energy dog who needed some attention.

XIII.B. Dog Toy Making Event for Animal Shelter

Wanting to have more of an impact with the local animal shelter, BMESS decided to create some dog toys out of old t-shirts. During an event, members were able to decompress and have an impact on their community by cutting old t-shirts into strips and braiding them into durable but fun dog toys that the dogs at the animal shelter will be able to play with.

XIII.C. Create a Figure for Stead Family Children's Hospital

Having previously been involved with Stead Family Children's Hospital (SFCH), BMESS wanted to reconnect and continue having an impact on these pediatric patients. To do this, one member who worked within the hospital reached out to Child Life and asked if there were any long-term oncology patients who would like to kickstart this new project. Once a patient was selected, the BMESS member talked to the patient and told her to make a sketch of a figure on paper, and BMESS would create it into a real-life figure. The patient was very excited, and once the sketch was complete, the BMESS members had a design challenge modeling the sketch in Creo and then the winning design was 3D printed and given to the patient.

XIII.D. Design Team – Severed Limb Transportation Kit

The BMESS Design Team serves as a cornerstone of our chapter's technical and professional development efforts, comprising approximately half of our general meetings and supplemented by numerous focused workshop sessions. Each year, the team identifies a significant, real-world

medical challenge and applies the Biodesign innovation framework to develop an engineering solution grounded in user needs and clinical impact.

For the 2025–2026 cycle, the Design Team addressed a critical and underserved problem in emergency medicine: the absence of a safe, efficient, and standardized method for transporting severed limbs. Current EMS protocols require wrapping the limb in moist gauze, sealing it in a bag, and placing that bag inside an ice-filled container. This approach is impractical in standard ambulances, which typically lack appropriately sized bags, ice, and storage capacity for the limb. This gap in emergency care contributes to preventable reductions in successful replantation rates and creates an urgent need for engineering innovation.

Throughout the academic year, our team progressed systematically through the Biodesign process. We developed functional requirements, conducted extensive concept generation and refinement, interviewed EMS professionals and a traumatic amputee, researched ideal solution characteristics, practiced design communication and pitching, and produced multiple prototype iterations. Our objective is to deliver an open-source device concept that can be adopted and scaled by manufacturers globally, accelerating modernization of limb-transport protocols and enabling more equitable access to effective replantation tools.

We are currently collaborating with leadership from the Iowa Emergency Medical Services Association (IEMSA) to share our findings and present our developing solution at their annual conference in November 2026. As an academic student organization, we believe that openly disseminating our work maximizes societal benefit and aligns with our mission to advance public health and safety. With over 83,000 traumatic amputations occurring annually in the United States, this project has the potential to meaningfully improve replantation outcomes and enhance the long-term quality of life for thousands of individuals each year.

Our proposed solution is a three-layer limb-transport system designed to improve sterility, cooling efficiency, and physical protection during emergency transport. The innermost layer provides a sterile barrier to securely contain the moist gauze–wrapped limb. Surrounding this, the middle layer holds ammonium nitrate pellets, which rapidly cools the transport system when activated with added water. The outermost layer is an inflatable air chamber that can be pressurized using a standard vacuum splint pump, creating a protective cushion that shields the limb from impact.

To ensure ease of use in high-pressure emergency scenarios, the device incorporates a screw-cap port for water injection to activate the cooling reaction, a simple pictogram with step-by-step instructions, and extra-large gauze pads and a tourniquet to support concurrent patient care. The entire system is intentionally designed to be low-cost, intuitive, and compatible with existing EMS workflows to maximize feasibility and adoption. Figures 3 and 4 illustrate the current state of the design.

Figure 3: Low-fidelity prototype and key functional components, including mock-ups of the screw-cap and vacuum splint port

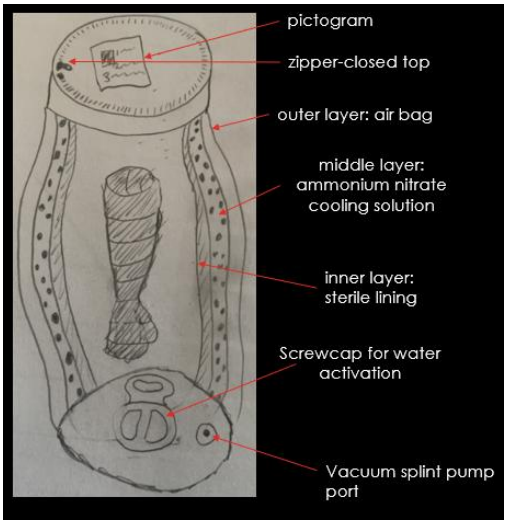

Figure 4: Conceptual hand-drawn representation of the severed-limb transportation kit

As we continue through the remainder of the 2025–2026 academic year, our team plans to iterate on this design through further prototyping, testing, and refinement. Our goal is to deliver a polished, well supported concept for presentation to the IEMSA at their November 2026 annual conference. We aim for this presentation to provide meaningful insight and a valuable foundation for future manufacturers interested in advancing limb transport technology.

XIV. National BMES Meeting

For the 2025 Annual Meeting in San Diego, one board member attended. It was an amazing experience where attendees had the option to talk to schools about the programs and opportunities they offered. Although the member did not present, they were co-authored on two presentations at the conference. Being able to attend different presentations and posters was interesting because it provided ideas for future directions or projects. A specific event that was enjoyed was the session with podcaster Liz Wayne, where she talked with Dr. Sakiyama-Elbert. In the future, we hope to obtain funding from the Roy J. Carver Department of Biomedical Engineering to provide additional opportunities for members to attend.

XV. Future Direction

X.V.A. Summation of Goals Achieved

Sector	Goal
General	• Establish National BMES Chapter • Create CDR • Attend the Medical Device Make-a-thon • Have a meaningful spring trip to a Biomed Company

X.V.B. Outline of Expectations for Next Year

Sector	Goal
General	• Renew Chapter Status

Boost Overall Member Engagement: Increase attendance and retention across all events by tracking engagement and ensuring programming consistently meets the diverse interests of the student body.

Expand Departmental and Peer Collaboration: Partner more frequently with the University of Iowa Biomedical Engineering department and other engineering student organizations to co-host events, pool resources, and build a more unified engineering community.

Increase Upperclassman Involvement

Strengthen Local Industry Partnerships: Cultivate mutually beneficial relationships with local businesses—specifically establishing a pipeline with companies like CIVCO Medical Solutions—to secure fundraising sponsorships, host company tours, and provide exclusive professional development opportunities.

Ensure Consistent Committee Programming: Establish a structured and reliable event calendar that challenges every BMESS committee to host at least one dedicated event, workshop, or social activity each month to maintain momentum throughout the semester.