2018-2019
Purdue Beta

A. Initiations

Purdue Beta initiated 21 new Pi Tau Sigma members during the fall semester on December 4th, 2018. In the spring, 12 new members were initiated at the initiation ceremony on April 23rd, 2019. The road through pledging and initiation has remained an enjoyable and challenging process for new Pi Tau Sigma - Purdue Beta members. The selection process begins the first week of the semester when qualified mechanical engineering students are invited to attend the call out. Qualified students have met or exceeded the minimum grade point average requirement as defined by the top 25th percentile of grade point averages of students with common semester classifications. Of the large number of qualified students, around 10% attend the call out and around 5% continue on with the semester long initiation process. New members must complete a number of activities before they are eligible to be fully initiated. These requirements include

- *Attend Weekly Pledge Meetings:* In the weekly meetings, new initiates get to know one another through icebreakers and group activities including writing trivia questions for the end of semester Mechanical Engineering Social (see part B, Chapter Activities). These meetings are also used to teach the values and symbols of Pi Tau Sigma, such as the meaning of the symbols and colors on the key and crest. Additionally, active members are required to attend at least one of these meetings to introduce themselves to the new members.

- *Collect Signatures:* Initiates are required to collect the signatures of chapter officers and chairmen, professors, and fellow initiates. This is an opportunity for new members to interact with active members and welcome them to the organization. Some active members have requirements that the initiates must meet before the active member will give their signature such as show two new people the Pi Tau Sigma office and lounge or attend a social event. In the event that an initiate does not complete their signature sheet, they are required to write a Haiku for every signature they missed, which they present at the end of the semester Banquet.

- *Interview Chapter Leaders:* The new initiates are required to interview five club members with leadership positions. They are encouraged to interview members with positions that they may be interested in filling in the future, such that the initiate can gain an understanding of the activities and responsibilities of the position. This is also a way to encourage more in depth interaction between active members and new members.

- *Community Service:* All members (initiates and active) are required to complete at least two hours of service each semester. All members of the initiate class participate in one activity together to promote bonding and relationships. This

year initiate classes participated in Winterization and Boiler Blast (formerly Springification) where Purdue students are dispatched to local neighborhoods to help elderly residents with yard work just before winter or for spring cleaning.

- *Attend An Actives Meeting:* Each initiate must attend at least one active members' meeting to be eligible to participate in initiation. This is another opportunity for new members to meet active members and for new members to collect signatures.

- *Fill Pledge Class Leadership Positions (Optional):* There are four positions within the pledge class that must be filled by new members. These positions are treasurer, service chair, test files chair, and social chair. The treasurer of the class is responsible for collecting dues, the service chair is responsible for organizing a service event for all new members to attend, the test files chair is responsible for collecting personal study guides for exams to add to our new library of study guides for sale as study aids, and the social chair is responsible for organizing service events for the pledge class. These positions are intended to mimic the corresponding active chair positions and help identify members who may be interested in leadership in the future.

- *One Time Membership Fee:* The one time new member fee covers the cost of the nationals membership fee and PTS polos. It also contributes to the general club funds used to put on various activities for members, mechanical engineering students, and local community members (see part B, Chapter Activities)

- *Pledge Exam:* The pledge exam is a light hearted way to test the initiates' knowledge of national Pi Tau Sigma symbols and leadership, and local chapter practices. The exam lasts one hour and initiates must complete the exam while active members provide distractions such as music, asking initiates to hold umbrellas while taking the exam, asking initiates to all sit around one very small desk, etc. Nothing that can be considered hazing is done during the exam. The exams are graded as pass/fail based purely on the initiates attitude.

- *Initiation:* Initiation must be attended by all new members if they are to become full active members. Initiates first must complete a trust walk (eyes closed, holding hands) around the mechanical engineering building led by the Vice President of Pledges. The new members then do a few team building type activities such as alphabetizing themselves by last name without speaking or naming all 50 states in order alphabetically. Finally, new members are called into the initiation room one by one and asked a question by the Purdue Beta Officers ranging from the simple (what is the flower of Pi Tau Sigma) to the ridiculous (estimate the airspeed of an unladen swallow) if the new member's answer is satisfactory to the officers, they are allowed to enter the initiation ceremony. If not, they are sent out and asked another question a few minutes later. Once all initiates have made it to the initiation ceremony, the officers read the nationals-provided initiation script about the ideals of Pi Tau Sigma. The new members are taught the handshake of Pi Tau Sigma, then write their names and email addresses

in the initiation book. Afterwords, the newly initiated members are invited to attend the end of semester banquet where they are recognized for their hard work during the last semester.

Upon fulfilling all of these requirements, the initiates officially become active members of Pi Tau Sigma.

B. Chapter Activities

Purdue Beta is extensively involved in the Purdue Mechanical Engineering department and the local West Lafayette community. Each chapter activity is briefly described below categorized as a chapter, mechanical engineering, or community event.

Purdue Beta Chapter Events

- *Actives Meetings:* Biweekly active member meetings are held to ensure that all members are up to date on upcoming activities and events. The meetings also offer an opportunity for our members to get to know one another. Attendance is taken at these meetings. Three unexcused absences by a member could result in a member becoming inactive with the chapter.

- *Industry Information Sessions*: The chapter hosted a few special speakers at our actives meetings during the fall and spring semesters, timed with the two major recruiting events at Purdue. These speakers included company representatives from Cummins, GE, Exxon Mobil, and Eastman looking specifically to recruit Pi Tau members. The company supplies refreshments and promotional items in many cases to further encourage member participation. The presence of these speakers has been part of an effort to increase the benefits of being a Pi Tau member at Purdue. Ultimately, the chapter would like to serve as an intermediary, connecting the highest achieving mechanical engineers at Purdue with the most highly sought after positions in industry.

- *Intramural Teams*: Five intramural teams were created from active members this year including sand volleyball, ultimate frisbee, basketball, dodgeball, and indoor soccer. This activity proved to be valuable to the organization, strengthening relationships among those participating and helping to get members more involved in the group. The dodgeball team achieved 3rd place, which is the best placement, Pi Tau has earned in recent years.

- *Pi Tau Sigma Social Events*: To maintain camaraderie within the chapter, social events are held on a roughly monthly basis. This year our events included bowling nights, *Game of Thrones* watch parties, a trip to Turkey Run State Park, and video game tournaments. This year two new events were also created in collaboration with other engineering organizations: an Engineering Barn Dance in the fall and an Engineering Formal in the spring. The pledges are invited to these events in an effort to make them feel welcome and at home with the chapter.

- *End of Semester Banquet*: At the end of every semester the chapter holds a banquet for all members to celebrate the end of a semester and to recognize the newly initiated members and the graduating seniors. The chapter caters food from a local dining favorite. This is perhaps the biggest chapter event held all semester and is a great opportunity to take a break from studying for finals and socialize with other members. This is also the event where the next generation of officers is elected in an effort to smoothen transitions between semesters. Attendance tends to be around 50 people.

<u>Mechanical Engineering Department Events</u>

- *PTS Tutors*: A unique opportunity that is offered to active members of the Purdue chapter is to tutor students in the ME student body. The tutoring chair was tasked with creating a list of available tutors and their subjects from PTS actives members and members of Omega (the graduate honor society). The tutoring chair managed requests and matched students with active member tutors. Active members are selected to tutor students based upon their performance in the respective classes. Throughout the past semester the number of tutors within the organization has been around twenty students with many of those tutoring in multiple classes. This tutoring program has been successful enough that requests are even received during the summer months.

- *PTS Sponsored Review Sessions*: The chapter sponsors review sessions for introductory mechanical engineering classes such as thermodynamics, statics, and dynamics. Many of the chapter's members are teaching assistants or graders for these classes and thus are well qualified to hold these review sessions. The materials covered in these sessions are past exams that our members completed when they themselves took these same classes in past semesters. The review sessions have been very successful as a form of increasing positive awareness of our organization. We tend to hold one session for one of the three mid-term exams in each of these classes, which can get attendance upwards of 50 students. The test reviewed is made available to any student who would like to have an additional copy for practice.

- *ME Forum*: This is arguably one of the most beneficial events that this chapter organizes when it comes to improving the ME community. This event traditionally occurs during the middle of every semester and consists of an open forum between students and faculty with discussion mediated by the PTS president and recorded by the secretary. Talking points are gathered from school wide polls asking about students' experiences in their classes and any suggestions they have to make things better. For students, the forum is an opportunity to have their question and concerns addressed by the faculty and staff in charge. This event is beneficial for the faculty because it allows them to understand what changes students would like to see in the curriculum or department as a whole. The secretary's notes are distributed to the entire ME community after the forum

so those not in attendance can familiarize themselves with relevant issues. Examples of issues raised during this year's forum include timely grading, more feedback for incorrect answers, easier access to online resources from class (lectures, past exams), and more power strips in certain areas of the ME building. Faculty members present include the department head, the head of undergrad studies, course coordinators, professors, and other ME staff. The chapter provides refreshments to encourage attendance.

- *Mechanical Engineering Social*: The ME social is a semesterly event occurring during the final week of every semester. The event allows students a break from studying and an opportunity to unwind and socialize with fellow ME's. This event takes place at a local restaurant and the chapter provides food to those in attendance. This semester, it was held at Buffalo Wild Wings, where over 300 wings were served. Additionally, commemorative pint glasses are distributed to the first eighty students in attendance. A pub style trivia game is the main event while at the bar, with questions being generated by the semester's pledge class with the help of the social chair. This event is traditionally one of the largest the chapter organizes, with attendance between 75 and 100 people.

- *Lounge Sales*: One way in which the chapter is able to provide a service to the ME community is by sponsoring and organizing a lounge in the mechanical engineering building. Active members and pledges sell common snacks and sodas found in vending machines purchased with the chapter's funds at reasonable costs to the mechanical engineering student body, faculty, and staff. The act of manning lounge hours is critical in the pledge process and remaining an active member of the chapter. The lounge is the responsibility of the Lounge Chair who in turn reports to the Vice President of Sales. Our goal with this endeavor is to provide a service more than aiming for profits, so we sell all items at the lowest prices we can offer without taking losses. The lounge is continually improved by adding new snacks to the menu and removing the rarely purchased items. We also started selling stationaries as ME students often find themselves needing more engineering paper.

- *Test File Sales*: In the past another cornerstone operation has been the chapter test sales office. Our active members were tasked with contributing to a test bank of core course exams and quizzes that active members have taken and received a 90% or above on and corrected their mistakes. Historically this has been an excellent resource for mechanical engineering students and a source of income for the chapter, however with the internet making everything more accessible, sales have significantly dropped during the last few semesters. The test files chair who used to be responsible for ensuring exams were in stock has digitized all of the exams in the test files bank this past year. After we gain approval from the ME professors, our goal is to either sell access to all digitized exams for a one time reasonable price or just provide this service for free if there's a lack of sales. We recently started to gather study guides rather than completed exams from our pledge class as we wanted to differ from the tests already available online. We

believe the study guides could not only be a new source of profit for us, but it also promotes studying for our pledge class as they might not have done them without this requirement.

- *Ultimate Design Contest (formerly Research Creativity Seminar):* The Ultimate Design Contest is a daylong event with an ME research professor to stimulate students to think creatively within the context of research. This event was open to all engineering students, and was held once in the fall and twice in the spring. The main activity for the daylong event was developing innovative solutions for whatever research topic the ME professor proposes. These topics include how to prevent/mitigate forest fires, how to prevent/mitigate snow/ice from falling from tall buildings and injuring people below, etc. The goal of this event is to inspire creativity and emphasize the notion that in many real world engineering problems there are many "correct" solutions and to arrive at the best solution, nontraditional thought processes may be required. This event has been gaining traction with the school of engineering as a whole and is projected to be even larger in the future. The eventual goal is to how different engineering organization send their best 4 members to serve as a team and compete against other engineering organizations for prizes.

- *Compilation of Senior Composite Photo*: A small but critical service that our chapter provides for the ME community is the compilation of the senior composite photo. Every semester a Pi Tau member, the composite chair, works with various staff members to organize a timetable for graduating seniors to have their photos taken. These photos are then sent to the composite chair where they are post processed and imported into the final composite template.

- *Solberg Teaching Award*: One of the activities the chapter conducts on an annual basis is the polling of the student body to reward special members of the faculty with a teaching award. Pi Tau members are responsible for conducting the balloting in each upper level ME course and gathering results. We make sure to hit every single required upper level class as we want the voting to be as fair as possible. Only upper level mechanical engineers are polled to ensure that faculty teaching at all levels in the curriculum are considered. This occurs once a year and would not happen without the chapters help.

<u>Community Events</u>

- *Boiler Blast/Winterization:* This is a semesterly service event that is always looking for volunteers and an opportunity for pledging and active members to truly make a difference. Winterization takes place in the late fall and Boiler Blast in the spring of each year and dispatches organizations to volunteer in the community, fulfilling the requests of local residents for a variety of domestic

tasks such as moving, cleaning, yard work, etc. This event occurs on one weekend day late in the semester with jobs varying in length from three to nearly six hours. This is traditionally the service event that all pledges participate in.

- *Boys and Girls Club Carnival*: A long-standing tradition within the Purdue chapter, the Carnival sponsored by PTS at the Lafayette Boys and Girls Club is perhaps one of the most popular service events for both chapter members and the children at the club. The event is solely sponsored and organized by the chapter, featuring a bounce house, inflatable obstacle course (always a big hit), and a number of small carnival games. Every volunteer runs one of the stations or games and distributes tickets to the children who can then redeem the tickets for prizes and candy.

- *Elementary Outreach*: Two separate service events were held at Purdue for elementary school students during the last academic year. The goal of these events was to collaborate with a local teacher and give the kids a hands on experience with science and engineering to get them excited about STEM in general. The elementary outreach chair was responsible for organizing the events with other STEM departments. One event was the STEM tour where a few of our members helped with a simple activity involving a homopolar motor using neodymium magnets, a AA battery and copper wires was used to teach kids about practical application dog electricity as well as some fundamental principles of science. Another event was Saturday morning physics, which is a monthly event that the outreach department at physics hosts. A few of our members also volunteered at a couple of these events and conducted different activities for the children.

- *Food Finders:* This was one of our smaller events during the year, but still a way to give back to the community. Some of our members went to a local food bank to help pack food into boxes for easier distribution. They also helped carry and move the boxes to certain locations.

C. Other

Chapter Information

	Fall 2018	*Spring 2019*	*Fall 2019*
President	Kaan Ardic	Kaan Ardic	Abigail Ratkovich
Treasurer	Leo Kullman	Leo Kullman	Aaryan Pant
VP Actives	Pranav Katragadda	Sam Meyers	Mohammed Matar
VP Pledges	Jamie Macklem	Abigail Ratkovich	Josh Herzfeld
VP IR	Joseph Chamberlain	William Topercer	Shayan Zahid
VP Sales	Jerry Wang	Jerry Wang	Jamie Macklem
Secretary	Romir Agarwal	Aaryan Pant	Emily Nadler

Chapter Advisor: Dr. Stephen Wereley

Contact Information
Chapter Website: https://engineering.purdue.edu/PTSBeta
Chapter Email: pitausigmabeta@gmail.com