Fall 2014 – Spring 2015
UL Lafayette Sigma Alpha

A. Initiations

To satisfy the requirements for Pi Tau Sigma, two initiation ceremonies must be held in the academic year (fall and spring semester). Our chapter successfully held two initiation ceremonies and here is the procedure of the initiations

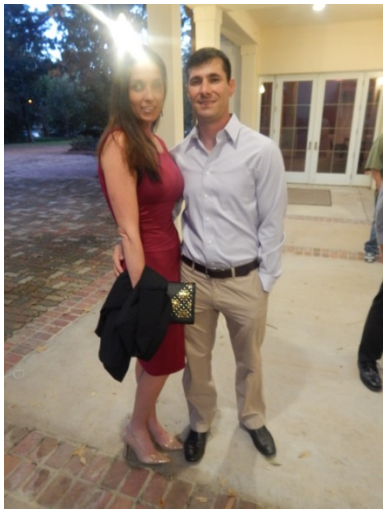
- In the new academic year, a lot of change was made from the previous initiation because the new officers and I, the president, needed to find a way to draw more people to join pi tau sigma whenever the letters were sent out. Here are a few of the changes we made.
    - The induction created had a lot of extra pages that were not completely necessary so from a bulky induction packet, we managed to trim it down to three pages. These pages are in the appendix at the end of this document labelled **Induction Letter Page 1, Induction Letter Page 2, and Induction Letter Page 3. Page 1** consisted as a page congratulating them into pi tau sigma, explaining what we present and some instructions on how to join. **Page 2** represents the benefits of being a member, membership fee with a clear outline of what the money is being used for (we wanted it to be clear to them that joining our organization was to their benefit), location of induction ceremony and membership requirements and **Page 3** is a signature list they have to complete.
    - We decided to make it an extremely formal event so during the summer, the president updated the schools website with our information and through the school, we booked a hall on the university campus during the fall and spring semester to perform the ceremony. It required us to fill a couple of forms and pay a registration fee of about $50 but we succeeded.
    - We made conversion tables to hand out to our members at the induction (we handed a lot out in the fall semester but not at the induction. In the spring semester, on the other hand, we handed it out in the induction)
- To start off our process, as the school session begins, our chapter advisor is given a list of all mechanical engineering students currently in their junior and senior year. He sits down and spends about 3 weeks everyday analyzing the list extensively with the criteria provided to us the national by-laws of pi tau sigma and our own requirements to see who fits the criteria of joining our student chapter of Pi Tau Sigma
- After the chapter advisor finishes the process, he sends the prospective list to the president and all other officers (vice president, treasurer, secretary and cataloger) notifying us that this people fit the criteria of being pi tau sigma members. If anyone does not fit the criteria, we will let him know that we are taking the person off. In some cases, this is due to meeting our own requirements such as taking a certain level of classes (some people may be juniors but have not taken some junior level classes).
- The president works hand-in-hand with all the officers to make the induction packet ready for all the individuals who can possibly be members of pi tau sigma. We obtain

envelopes with the mechanical engineering sign, address and logo of our department to show formality and also, we print out the first page of the letter with the department paper to show formality. When all three pages are printed, we scan the first page only since the second and third page have soft copies and send that first page to inductees. This measure is taken in case the inductee wants to send the official page to family members.

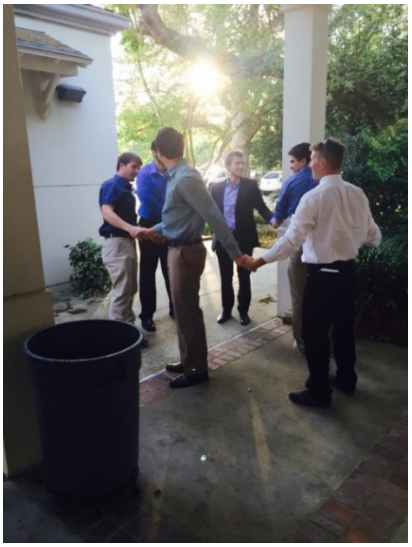
- The president (carbon copying all his officers into the email) sends an email to all prospective members of pi tau sigma and also informing them that he would personally handout letters to them. This is to show to congratulate whoever that person is, in person and also get to meet who these wonderful members are.
- The inductees are required to get signatures on the third page of the document from teachers and also members. They are not required to get all but a certain number of signatures must be collected to be inducted and we check this signatures on the day of the induction. It is a heavy requirement and it must be met. We do not make it extraneous so that they are not discouraged because we understand that time is of the essence for some of these people.
- From the time the induction letters are handed out till the time of the induction, officers make themselves available if any questions need to be answered.
- Before the induction, everyone is required to show up at a certain time waiting patiently for the ceremony to start. We allow guests to show up but they cannot be part of the ceremony.
- At the start of the ceremony, the president gives a mini-introductory speech just welcoming them to the ceremony. After the speech, we (including the officers) play a game to just liven up the atmosphere. After the game, we call each name on our list. They proceed into a dark room where the induction process will take place. We run through the induction process and officially welcome them into the organization. After that, we mention a few announcements about things going on in pi tau sigma and what's happening with our chapter. At the end of the ceremony, each member is required to sign their name in the induction book, pay the fee (there are two fees depending on what they want) and also pick up conversion tables created by us. (it is also in the appendix.
- After the ceremony, we invite them to a dinner on campus (right across from the induction hall) paid for by the chapter of pi tau sigma. Two different courses with bread pudding desert (you can never go wrong with pudding) and assorted drinks.
- The ceremony usually lasts about an hour and a half.
- The secretary sends a message of thanks from all officers to our new inductees.

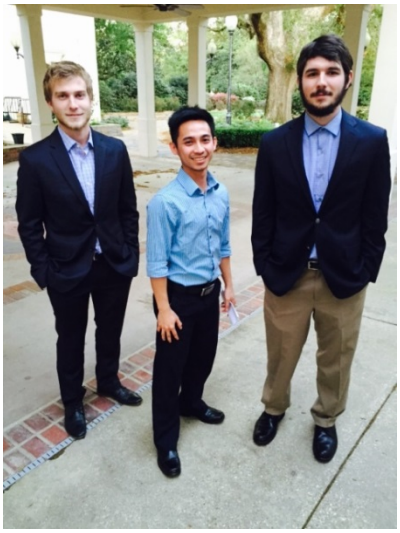
On the next page are some pictures of the induction process in both semesters

Fall Semester Induction



Spring Semester Induction





B. Activities

This past academic year, our main goal for pi tau sigma was to try and get enough funds into the organization so that we could attend the national convention as well as attempt to put some events in motion. Also, with these funds, the next president can have some money to do a lot more events than we did because we did not have much to work with when we started. Nonetheless, it was still a successful Pi Tau Sigma year for our chapter because we managed to grow and become closer as a family.

Even if we did not achieve the number of events we wanted to do in the semester, we still managed to pull off a few activities during this past academic year and I will highlight them below with a few other achievements we had this past year.

B.I. Sponsorship

Before the academic year began, we decided to check our bank account….which was not exactly something to start off with (we had about 300 dollars). A lot of things we hoped on achieving needed some source of income so we ended up sending out sponsorship letters to companies hoping to get some sponsorship from their companies to start up something just completely from the way Pi Tau Sigma has been run over the past few years.

Not all companies were willing to help us with it but some companies still donated money to our cause and with the money received, we were able to

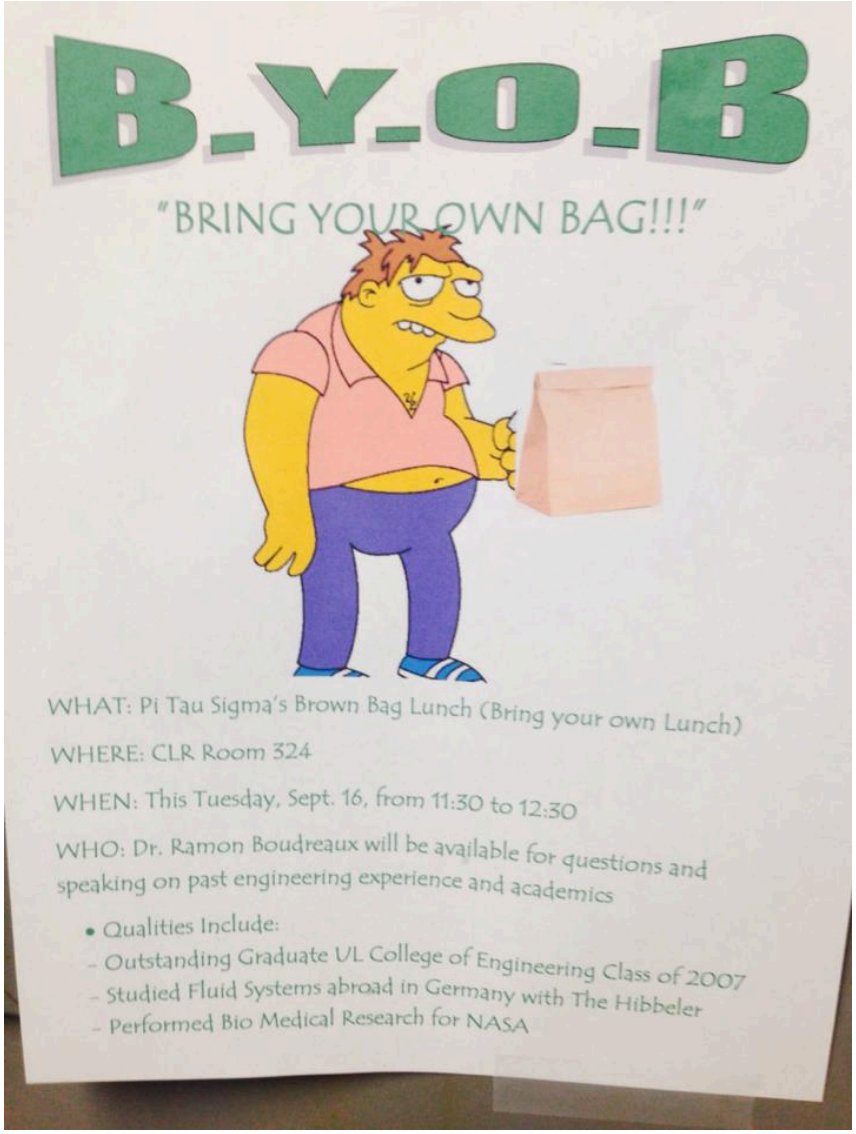
- Reimburse 5 people a total of 1100 dollars for attending the convention outside of the stipend received from the national chapter of Pi Tau Sigma.
- Make Official Polos for our student chapter of Pi Tau Sigma
- Provide food and reservations for the pi tau sigma events
- Make conversion tables for Pi Tau Sigma members as well as mechanical engineering students

B.II. Brown Bag Lunch

One thing that our pi tau sigma chapter attempted to do this semester was to continue a long tradition that the previous pi tau sigma presidents had done. This was our brown bag lunch. This is basically an event where our chapter tries to find someone from industry to come and spend his lunch time meeting up with us pi tau's. We provide the lunch for whoever the person is.

Our duty as officers is to try and make sure a couple of people just show up for the event and also make sure that lunch is provided. The secretary, treasurer and cataloger are tasked with coming up with a flyer that can catch the eye of students in our department. Everyone (except the guest speaker) just brings their lunch and has casual conversations with the person from the school or industry.

On the next page is an example of one of our flyers we used



B.III. Convention Planning

Pi Tau Sigma turned 100 this past academic year and the 2015 convention of pi tau sigma was held in the place it all began; University of Illinois, Urbana-Champaign. The president attended the previous convention in Texas A and M so he knew the convention for this year was in Chicago. It is one of the reasons we raised money because we knew it was going to be expensive for us to fly all the way there.

Here is just a simple outline of how we planned for this

- We constantly sent emails all through the fall semester constantly reminding them about the convention and that if anyone was interested, they would let us know.
- We put a deadline for them to tell us when they were interested because we needed to make reservations for the flight and hotel in time. We were researching on the flights

and hotel long before the deadline so we can have an idea of what to present to people, in terms of expenses

- After the deadline, for the people attending, we constantly made sure that all the flights had been booked and all hotels were reserved.

There is a lot we could have done better but it was a success that we managed to send up to 5 people for the convention and we enjoyed every bit of it.

On the next page are some pictures we took at the convention

B.IV. Mentoring Program

In the spring semester, our chapter of pi tau sigma wanted to encourage the freshmen and sophomore in the degree to continue to pursue engineering and we were looking for some way to do it so we came up with the mentoring program

Basically, we paired up freshmen and sophomores with juniors and seniors so that they could basically have like a big brother or sister in the department who they could ask questions or go to for any sort of help and advice.

Now this was the first time trying it and it was not a huge success but a lot of improvements can always be made.

One thing we did was to ask for feedback from the members to see the best way to go about such a program so that the incoming president could attempt to incorporate it with new ideas from the suggestions collected and her new officers.

B.V. Bowling

After the spring induction, we announced our final semester event for pi tau sigma which was bowling

Basically, in cooperation with one of the bowling alleys in Lafayette, our chapter of pi tau sigma paid for all our members (old and new) to go bowling for free. All they had to do was to come and sign up.

We also made a sheet for non pi tau sigma members who just wanted to bowl because they could take the place of people who were not going to be available on the day

It turned out to be a very huge success for us officers, members and well-wishers

On the next page are some pictures from the bowling event.

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Appendix

1. Induction Letter Page 1

[Date]

Dear, [Persons Name]

As a student who meets the high academic standards required for the membership of Pi Tau Sigma, the university members of our chapter are very proud of your accomplishments and are pleased to invite you to chapter membership of Pi Tau Sigma and an opportunity to be a life time member of Pi Tau Sigma.

As the president of the UL Lafayette Sigma Alpha Chapter of the Pi Tau Sigma International Mechanical Engineering Honors Society, I would like to congratulate you personally on your scholastic achievement. Pi Tau Sigma is recognized as the leader in academic excellence in Mechanical Engineering and you are ranked as one of the top students in Mechanical Engineering at this University. We feel that the hard work and dedication that you have displayed over the years in your studies will allow you to succeed in your professional career and positively impact your community. To be a chapter member as well as a lifetime member, a membership fee is required. Details of the fee breakdown will be on the second page of this document. Please accept this honor and distinction by joining us as a member of Pi Tau Sigma.

The second page of this document outlines the requirements for becoming a Pi Tau Sigma Member and the benefits of being a member. The third page of this document outlines the signatures required for becoming a member of Pi Tau Sigma. For more information on Pi Tau Sigma, please visit their website www.pitausigma.net.

We are not just an organization; we are also a family of engineers. On behalf of the organization, we would like to welcome you to our ever-growing family of mechanical engineers and I, as your president of the UL Lafayette Sigma Alpha Chapter, sincerely hope that you accept this invitation to join Pi Tau Sigma.

Sincerely,

Mobuayo Pedro-Egbe
President, UL Lafayette Sigma Alpha
Pi Tau Sigma

Garrett Lege
Secretary, UL Lafayette Sigma Alpha
Pi Tau Sigma

2. Induction Letter Page 2

Benefits of being a member of Pi Tau Sigma and UL Lafayette Sigma Alpha Chapter of PTS

- **Networking:** By joining Pi Tau Sigma, you have a chance to network or meet with other top mechanical engineers in different parts of the world who are members of the organization. These are people that may share similar ideas and thoughts with you and that could lead to long lasting friendships as well as good business partners to work within mechanical engineering.
- **Career Fairs, Resumes and Job Opportunities:** By joining Pi Tau Sigma, you have a chance to attend their conventions where you get to meet other people like you and then they host a special career during the convention where a lot of high end companies will be looking for people to be employed. Also if you check out this link : http://pitausigma-jobs.jobtarget.com/home/index.cfm?site_id=9169 , it takes you to the pi tau sigma career center where you can post your resume online for job opportunities so you can take advantage of that. It is also something good to have on your resume.
- **GEICO:** Pi Tau Sigma has a partnership with GEICO. As a member of Pi Tau Sigma, You will qualify for an exclusive member discount which could save you up to an additional 8% on auto insurance.

Membership fee: The membership fee is about 50 dollars. If you want a Polo shirt, the membership fee will be 65 dollars. Here is the breakdown of the fees.

- **Certificate – 10 Dollars**
- **Pi Tau Sigma ID Card – 20 Dollars**
- **T Shirt (Optional) – 30 Dollars**
- **Chapter Dues for events we host for UL Lafayette Sigma Alpha Chapter of PTS – 5 Dollars (if you purchase a shirt) and 20 dollars (If you do not purchase a shirt)**

Location: This event will take place on Monday, the 30th of March, 2014 at the University of Louisiana at Lafayette, Alumni Center on the UL Campus (which is across from Angelle Hall (Music Building)) at 6.30pm. **You are required to be there for 6.00pm. DO NOT COME LATE!**

Membership Requirement: If you want to become a member of Pi Tau Sigma, you must go get extra recommendations (signatures) from the following people:

- UL Lafayette Sigma Alpha Pi Tau Sigma Advisor
- Three Pi Tau Sigma Faculty Members
- Six Pi Tau Sigma Members (Officers Count As Members; You could get more if you want)

This Document will be an essential item you would need to bring during your induction ceremony as well as the membership fee. The extra recommendation document is on the next page. You could put the membership fee and document in an envelope (Do not seal) and bring it during the ceremony.

3. Induction Letter Page 3

Recommendations To Become A Member Of The UL Lafayette Sigma Alpha Chapter of Pi Tau Sigma

We do hereby recommend _____for full membership in the UL Lafayette Sigma Alpha Chapter of Pi Tau Sigma.

Faculty Advisor	**Signature**
Dr. William J. Emblom, P.E	_____
Faculty Members	
Dr. Sally Anne McInerny, P.E.	_____
Dr. William Simon, P.E.	_____
Dr. John Guillory, P.E	_____
Dr. Mostafa Elsayed, P.E	_____
Student Members	
Mobuayo Pedro – Egbe (President)	_____
Shawn Mcneil (Vice President)	_____
Garrett Lege (Secretary)	_____
Caleb Guidry (Treasurer)	_____
Josh Duhon (Cataloger)	_____
Nicole Barry	_____
Jasmin Honegger	_____
Jason Howard	_____
Mitch Allain	_____
Beau Domingue	_____
Joseph Young	_____
Haley Cade	_____

Liwei Zhao _____

Evan Rineholt _____

Jordan Junker _____

Garrett Borel _____

Thomas Quinn _____

Travis Mouisset _____

Harold Nero _____

Jake Judice _____

Timothy Morris _____

Clarissa Gallardo _____

Erin Fisher _____

Evan Hosli _____

Bradley Jouty _____

Only the signatures of the faculty advisor, 3 faculty members and 6 student members are required

4. UL Lafayette Sigma Alpha Conversion Tables

USL Sigma Alpha

Pi Tau Sigma (PTS) Conversion Tables

English/Neutral ⟶	English/Metric/Neutral	Metric/Neutral ⟶	Metric/English/Neutral
1lbm	0.4536kg	1kg	2.2046lbm
1lb/ft^3	16.018kg/m^3	1kg	0.0688slugs
1ft	0.3048m	1g/cm^3	1000kg/m^3
1ft	12in	1g/cm^3	62.428lb/ft^3
1in	2.54cm	1m	3.2808ft
1yd	3ft	1km/h	0.62137mil/h
1L	35.315ft^3	1L	0.001m^3
1ft^3	0.02817m^3	1gal	0.0037854m^3
1gal	0.13368ft^3	1N	0.22481lbf
1lbf	4.44822N	1N/m^2 (1Pa)	0.00014504lbf/in^2
1atm	14.696lbf/in^2	1atm	101.325Kpa
1lbf/in^2	144lbf/ft^2	1acre	4046.87m^2
1acre	43538ft^2	1hp	746W
1therm	100,000Btu	1cal	4.18J
1Btu/h	0.293W	1metricton	1000Kg
1hp	550ft.lb/s	1KJ	0.9478Btu
1shortton	2000lbs	1gal	4qt
1ft.lbf	1.36J	1kw.hr	3413Btu
1hp	2545Btu/h	1kw.hr	3600KJ
1qt	57.75in^3	1atm	760mmHg
1mil	5280ft	1hr	3600s
1day	86400s	1KW	1.341hp
1year	31556952s	1bar	10^{5}Pa
1bushel	32qt	1AU	1.496*10^{11}m
1barrel	42gal(petroleum)	1parsec	3.086*10^{16}m
1lbf/in^2	6.89Kpa	1lightyear	9.461*10^{15}m
1pt	0.24L	1hectare	2.471acres
1fl.ounce	29.54mL	1electronmass	9.109*10^{-31}Kg
1cal	0.003968Btu	1kgf	9.81N
1amu	1.415*10^{-13}Btu	1mm	0.039in
1mil/min	88ft/s	1µm	10^{-6}m
1mil/min	60mil/h	1nm	10^{-9}m
1nauticalmile	1852m	1km/h	(5/18)m/s

USL Sigma Alpha

Pi Tau Sigma (PTS) Conversion Tables

Abbreviation Meanings

Abbreviation	Meaning	Abbreviation	Meaning
lbm	Pound Mass	Kg	Kilogram
Ft	Foot	M	Meter
In	Inches	Cm	Centimeter
Yd	Yard	min	minute
Ft^3	Cubic Foot	Atm	Atmospheric Pressure
Lbf	Pound Force	N	Newton
Btu	British Thermal Unit	H	Hour
Hp	Horsepower	Qt	Quarts
Fl. Ounce	Fluid Ounce	Cal	Calorie
Amu	Atomic Mass Unit	Mil	Mile
Gal	Gallon	Kpa	Kilopascal
Pt	Pint	KW	Kilowatt
Cm^3	Cubic Centimeters	In^3	Cubic Inches
L	Liters	mL	Milliliters
AU	Astronomical Unit	Mm	Millimeters
Kgf	Kilogram Force	µm	Micrometer
Nm	Nanometer	S	Second
mmHg	Millimeter of mercury	KJ	Kilojoule

Commonly Used Constants

g (acceleration due to gravity on earth) = $9.807 m/s^2$ or $32.178 ft/s^2$

R (gas constant) = 8.314KJ/kg.K or 1.98588Btu/lbm.R or $10.713 psia.ft^3/lbm.R$

K (boltzmann's constant) = $1.3806488*10^{-23} J/K$

N_A (avogadro's constant) = $6.022*10^{23} mol$

C (speed of Light) = $2.99792458*10^8 m/s$

Courtesy of USL Sigma Alpha PTS