UF Herbert Wertheim College of Engineering
UNIVERSITY of FLORIDA

GATOR ENGINEERS
Engineered for Safety

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Director of Safety
March 9, 2016

ERC Annual Meeting (ASEE)

POWERING THE NEW ENGINEER TO TRANSFORM THE FUTURE

Prior to 2013

- EHS “police” – us vs. them attitude
- Annual (if not more sparse) Inspections
  - Focused on physical items, not research
  - Bypass “death-machine” to go to first-aid kit (84% of findings related to contents)
  - Compliance and checklist focused, not safety of research
- Empty threats of funding removal
  - Known non-compliance, no consequences
  - One lab shut down in 20 years
- Bottom line: it’s not working…major incidents across academia – including UF (3 in one lab within 3 months!)

HWCOE Actions to Address Issues

- Formed Faculty Safety Committee
  - Reps from each department and EHS
- #1 deliverable – create a full-time dedicated safety position within the college
  - Reporting lines to Associate Dean for Research and Facilities
- Position filled, first 6 months spent observing and inspecting with EHS
- Safety Culture Survey Spring 2014 – current state

2014 ENGINEERING SAFETY CULTURE SURVEY RESULTS at a glance...

54% of graduate students are working with hazardous materials

About 88% said they are comfortable talking to their peers, their PI and EHS about safety concerns.

35% ALONE

23% AFTER-HOURS

90% SHOULD wear PPE only **65% of those that should, DO**

34% didn't know who was in charge of day-to-day safety matters

55% OF INCIDENTS REPORTED

84% think they have gotten sufficient safety training

ONLY 25% PERFORM DOCUMENTED HAZARD ASSESSMENTS

96% say SAFETY is VERY important


"THE SECRET OF CHANGE IS TO FOCUS ALL OF YOUR ENERGY, NOT ON FIGHTING THE OLD, BUT ON BUILDING THE NEW."
— SOCRATES

Health and Safety Objectives

The College of Engineering is committed to providing a safe and healthy working and learning environment. We are dedicated to continuous improvement of our health and safety performance and culture by adhering to the following objectives, which align with our Gator Engineering Attributes:

- **Leadership:** Develop, implement, monitor and improve safety systems, programs and policies to meet or exceed University standards.
- **Integrity:** Hold all accountable for contributing to the improvement of our safety culture by taking appropriate actions to remove hazards, minimize risk, and learn from incidents, accidents and near-misses.
- **Professional Excellence:** Establish a culture that fosters sound decision making and standardized processes in order to achieve continuous improvement in safety outcomes.
- **Creativity:** Identify innovative techniques that encourage everyone to develop a safety-awareness mindset, affecting motivation, behavior and attitudes in a positive way.
- **Service to the Global Community:** Prepare faculty and students to become safety ambassadors, possessing knowledge and skill sets that can translate into leading safety practices globally.

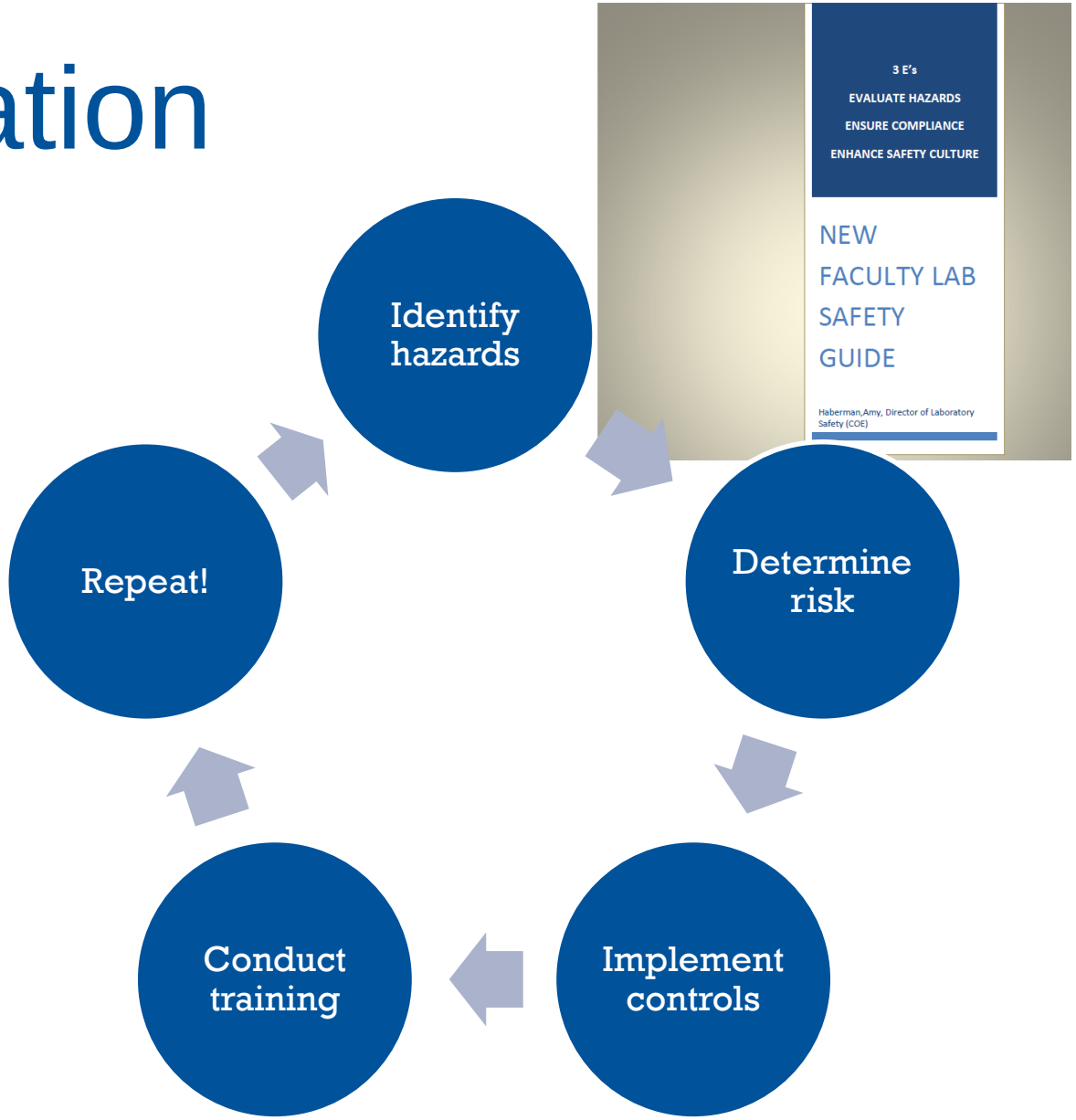

ATTRIBUTES OF A
GATOR ENGINEER
1
CREATIVITY
imagination, versatility, artistry, ingenuity, curiosity, resourcefulness
2
LEADERSHIP
entrepreneurial, engaging, effective, professional, visionary, inspiring
3
INTEGRITY
honest, ethical, hardworking, persistent, drawn to right action
4
PROFESSIONAL EXCELLENCE
technical competence, area expertise, insight, resolve
5
SERVICE TO THE GLOBAL COMMUNITY
tolerance, respect, interdependence, cooperation, compassion, expanded awareness of financial, societal, legal and cultural influences
6
Hold Safety as Paramount

CONNECT, Not Inspect

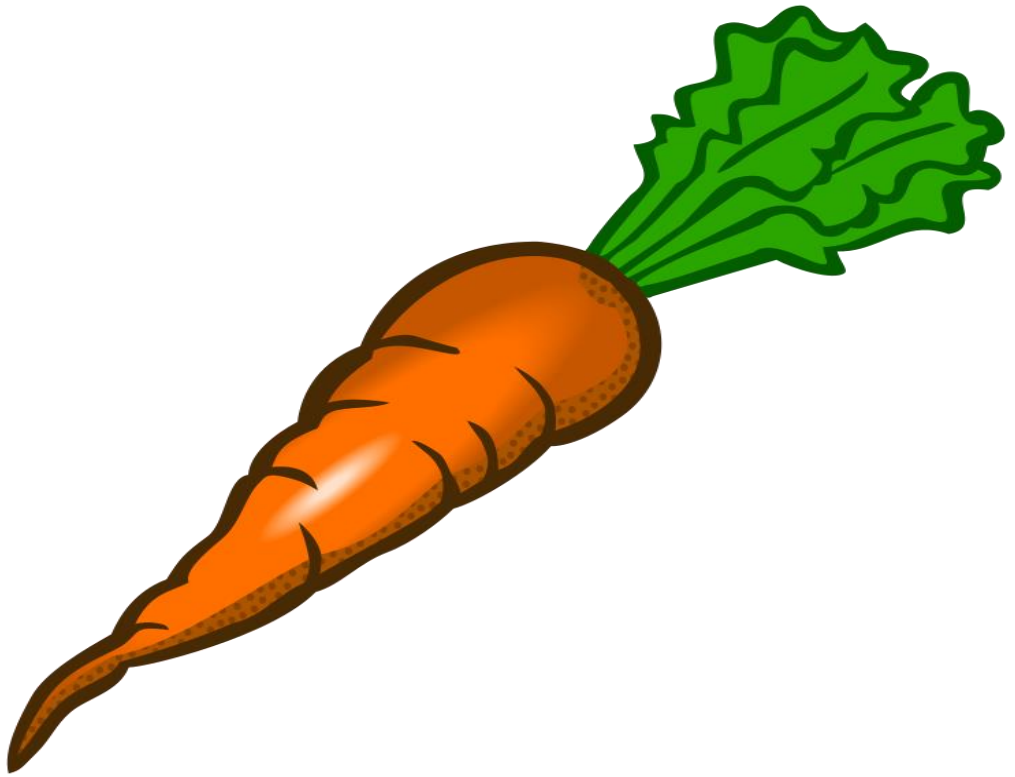
- **C**heck-In
- **O**ffer help
- Get to k**N**ow the labs
- Introduce **N**ew programs
- **E**valuate hazards
- **C**orrect concerns (non-punitive)
- **T**out (identify and recognize/reward best practices)

New Faculty Orientation

- COE Health and Safety Objectives
- Roles and Responsibilities
- Lab Registration Form
- **Lab Safety Kick-Starter**
- Training Expectations
- Hazard Identification and Risk Assessment
- Maintaining Safe Conditions
- Responding to Incidents
- Enhancing Safety Culture



Incentivize



- No Findings Club:
  - Labs with No EHS findings receive lunch
  - Grown from 5 labs to 20
  - Focus on maintaining safe conditions, knowledge of EHS expectations
- Students can earn Safety Certificate
- Monthly seminars have t-shirt, embroidered lab coat give-away, food, etc...

Engineering Safety Certificate

- Complete all UF offered EHS training that is applicable to your research.
- Attend 5 Safety Seminars offered by the College of Engineering; or find comparable external safety training
- Serve as an active member of your department's Student Safety Council for at least one semester.
- Demonstration of practical application of safety knowledge through a case study.
- Certificate Awarded at Gator Attribute Ceremony

Case Studies to Date:
Legacy chemicals & acute toxin ordering process

Monthly Safety Seminars

- Started in October 2014
- Trained over 500 students on 12 different topic areas
- Supplemental to EHS training, more in-depth topic specific
- Various training topics:
  - Outside vendors: Airgas, Sartoris, Swagelok, Parker-Hannifin, Labconco, HumanScale…
  - COE Safety Director: SOP writing workshop, GHS update, etc…


HARRIS LECTURE HALL
BENTON
LECTURE SERIES
Tuesday
SEPTEMBER 15
Improving Laboratory Safety and the Culture of Safety in Academic Laboratories
DISTINGUISHED GUEST LECTURER
Craig Merlic
Professor, UCLA Department of Chemistry and Biochemistry
Executive Director, UC Center for Laboratory Safety
A tragic accident at UCLA in 2008 precipitated countless changes in laboratory safety practices at UCLA, the University of California system, and colleges and universities across the United States. In making changes to safety practices and protocols, academic leaders must consider of the most effective way to achieve a culture of safety since the ultimate goal of enhanced safety requirements must be improved worker safety. Analysis of actual accident histories is one tool to guide improved safety practices in academic institutions. Another key finding from research on laboratory safety is the critical role of PI engagement on improving laboratory safety culture in academic labs. The UC Center for Laboratory Safety was established to address these and other issues in order to develop best safety practices for research laboratories. This presentation will present and discuss these efforts at UCLA and the UC Center for Laboratory Safety.
FREE & OPEN TO ALL
TUESDAY, SEPTEMBER 15 • 4:00 PM
NEW ENGINEERING BUILDING, ROOM 100
Reception 30 minutes preceding
UF College of Engineering
UNIVERSITY of FLORIDA
WE ARE POWERING THE NEW ENGINEER

PALS with ExxonMobil

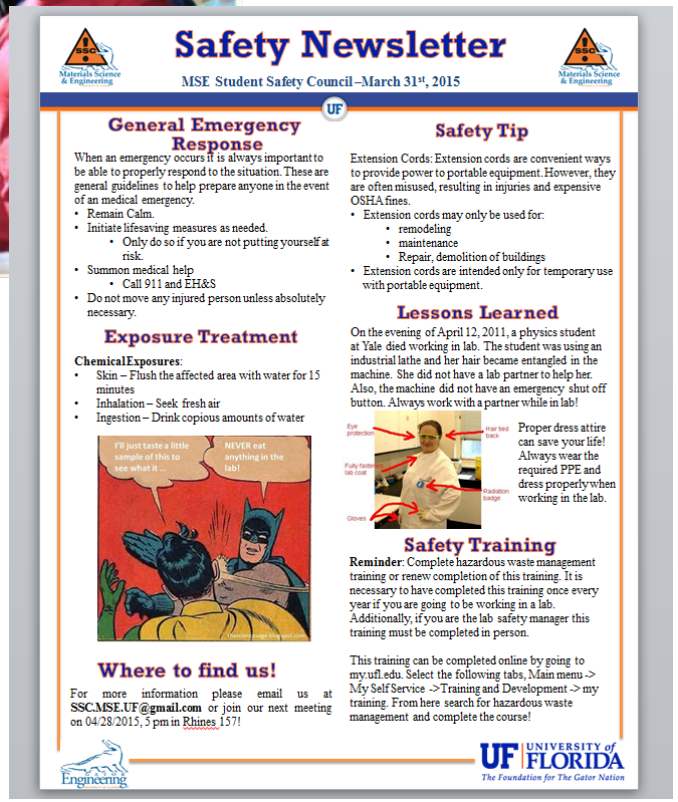
Partners in Academic Laboratory Safety

- UF site visit June 2014
- UF Safety Workshop: Dec. 2014
- 10 UF Faculty, Staff and Students to EM site in TX Jan. of 2015
- Student presentation to Faculty and students to kick off Student Safety Councils

Student Safety Councils

Chemical Engineering, Materials Science Engineering, Environmental Engineering Sciences, Mechanical Engineering

- Newsletters
- Dept. specific Safety workshops
- Peer-to-Peer coaching/advising
- Leadership development
- Problem resolution
- Liaison with Graduate Student Councils



Safety Newsletter

MSE Student Safety Council–March 31st, 2015

General Emergency Response

When an emergency occurs it is always important to be able to properly respond to the situation. These are general guidelines to help prepare anyone in the event of an medical emergency.

- Remain Calm.
- Initiate lifesaving measures as needed.
  - Only do so if you are not putting yourself at risk.
- Summon medical help
  - Call 911 and EH&S
- Do not move any injured person unless absolutely necessary.

Exposure Treatment

ChemicalExposures:

- Skin – Flush the affected area with water for 15 minutes
- Inhalation – Seek fresh air
- Ingestion – Drink copious amounts of water

Where to find us!

For more information please email us at **SSC.MSE.UF@gmail.com** or join our next meeting on 04/28/2015, 5 pm in Rhines 157!

Safety Tip

Extension Cords: Extension cords are convenient ways to provide power to portable equipment. However, they are often misused, resulting in injuries and expensive OSHA fines.

- Extension cords may only be used for:
  - remodeling
  - maintenance
  - Repair, demolition of buildings
- Extension cords are intended only for temporary use with portable equipment.

Lessons Learned

On the evening of April 12, 2011, a physics student at Yale died working in lab. The student was using an industrial lathe and her hair became entangled in the machine. She did not have a lab partner to help her. Also, the machine did not have an emergency shut off button. Always work with a partner while in lab!

Proper dress attire can save your life! Always wear the required PPE and dress properly when working in the lab.

Safety Training

Reminder: Complete hazardous waste management training or renew completion of this training. It is necessary to have completed this training once every year if you are going to be working in a lab. Additionally, if you are the lab safety manager this training must be completed in person.

This training can be completed online by going to my.ufl.edu. Select the following tabs, Main menu -> My Self Service -> Training and Development -> my training. From here search for hazardous waste management and complete the course!

UF UNIVERSITY of FLORIDA
The Foundation for The Gator Nation

Promotion

Take the **SAFER** Approach

S URVEY THE AREA
Look around

A SSESS THE RISK
What are the hazards? How do you control them?

F IND A SAFE WAY
Make a plan

E VERY TIME
NO exceptions

R EPORT ANY CONCERNS
Research never comes before safety

GATOR ENGINEERS
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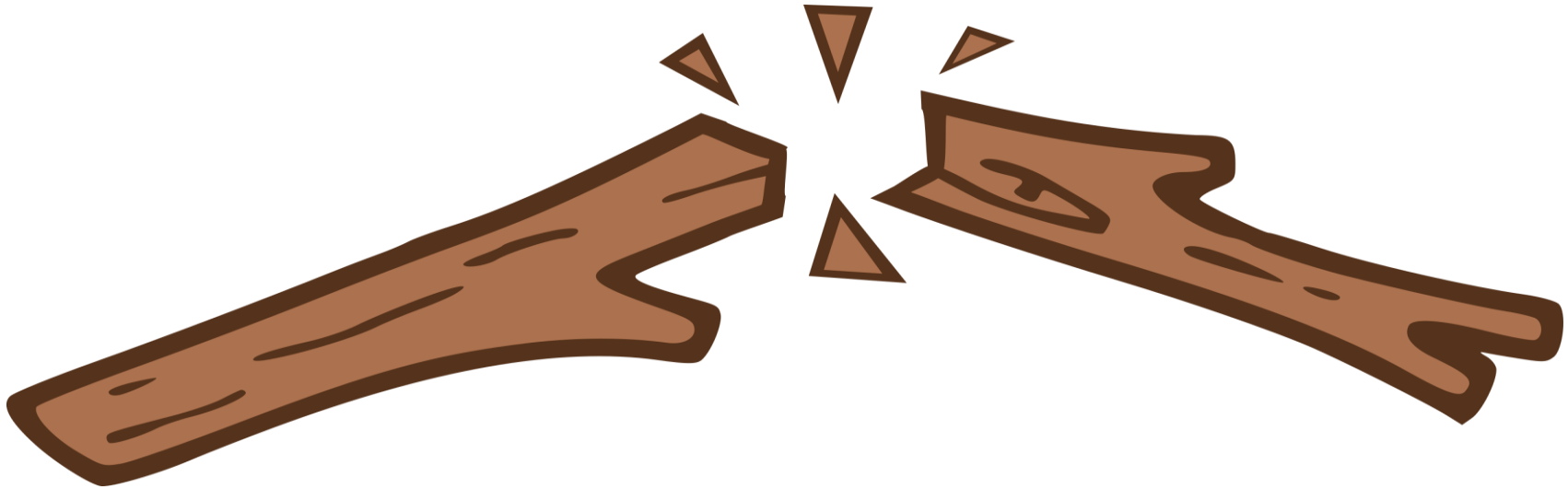
Report Form:
eng.ufl.edu/labsafety

Hold Accountable

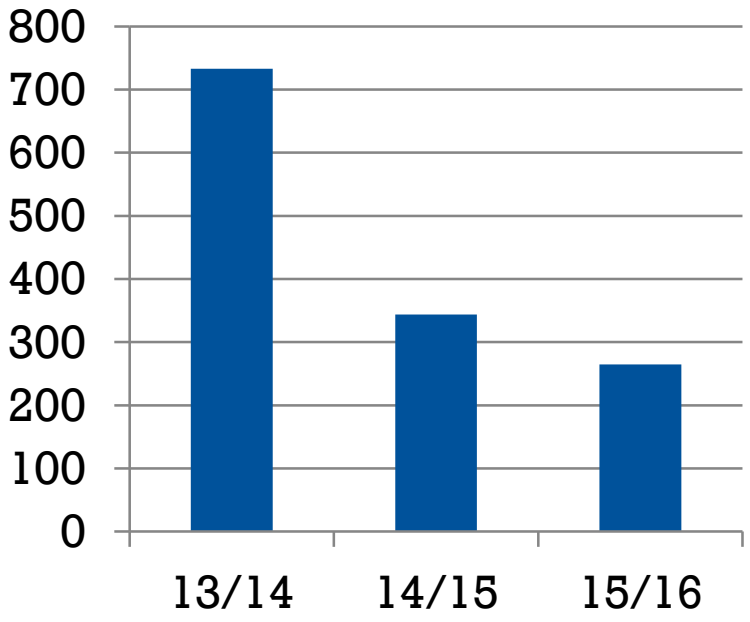
- Safety as an element of performance evaluations for Faculty and Graduate students
- Space, funding, equipment requests reviewed by ADRF and Safety

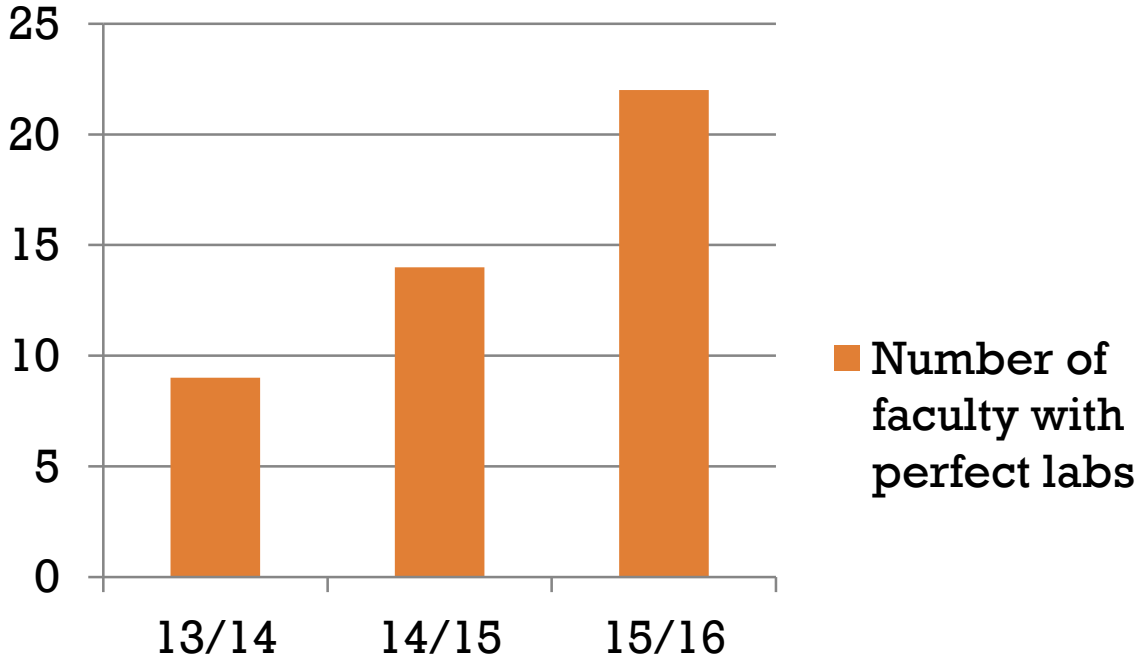


Other Activities of Note

- Safety Action Team
- Safety Column in Dean's Quarterly Newsletter
- Monthly meetings with Chairs and Dean
- Chairs meetings, faculty meetings and seminars start with safety moment

EHS Compliance Results





Thank you! Questions?

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