

Enterprise Training System

Background

Regulations and resulting training requirements cover a large number of employees, students, and MSU affiliates. Training provided by the regulatory training system (Saba LMS) educates the MSU community on legal and ethical standards and MSU policies.

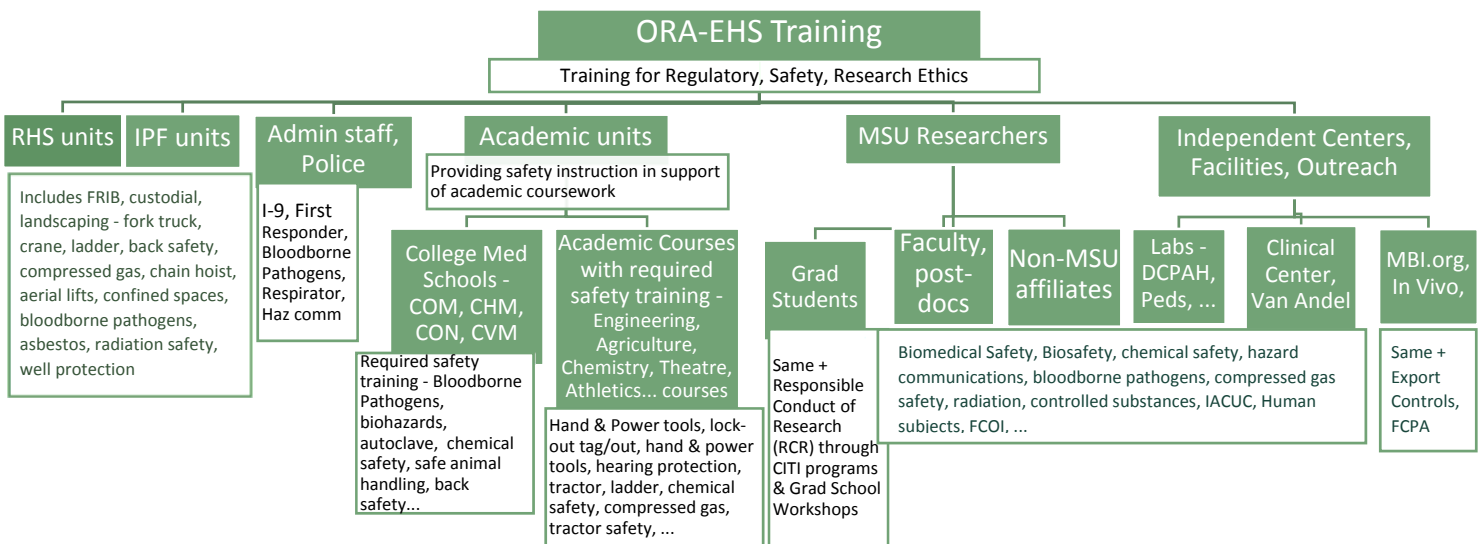
Training is an investment:

- Prevents injuries and legal actions,
- Protects the reputation of our research programs and public health,
- Ensures the continued good will of federal granting agencies and the local community.

A few years ago, researchers and compliance personnel used five separate training systems. Each had a different login and one was not even web-accessible. There was considerable re-keying of data between the systems. Now there is a central regulatory training system (Saba LMS) that uses MSU NetID security.

User Groups

Training is provided to many audiences. There are **currently 33,335 active users** of MSU's Saba system.



Estimating the number of researchers versus administrative or facility support type trainees has been very difficult. Likewise it has been difficult to divide training audiences by student versus employee. Individuals usually have training requirements for multiple roles. For example, a student requires chemical safety training for her lab course. During the summer and holiday breaks, she works for IPF and also requires bloodborne pathogens and hazardous waste training. Many full-time employees take undergraduate and graduate courses. In reviewing course rosters, it appears that between 40-60 percent of trainees hold multiple roles at the University. The rate varies by course. See example.

Department codes of trainees is also not a full solution because staff move between Administrative service units and Academic units with identical training requirements for their work. Healthcare clinic staff and custodial staff both need bloodborne pathogens training. Many academic courses also require students complete the same safety course as required by a University mechanic or recycling line worker (e.g. abrasive blasting cabinet, hand and power tools, hazardous waste). See Examples at the end of this document.

While safety and regulatory training requirements may only cover 50-70 percent of personnel in administrative service units, there are higher turnover rates that result in much more training for new employees. Unfortunately, like most LMS vendors, Saba counts user licenses on an annual basis. Given the turnover rates for student workers, contracted and part-time employees, etc, the total number of users is much higher than the number of users at any point in time. There were **66,000 total users** of the Saba LMS in 2016.

Training Delivery

MSU's regulatory training system (Saba LMS) currently **DELIVERS on average 4,388 courses per month**. Training escalates in August when new graduate students and new faculty arrive on campus. However, custodial and maintenance hiring in spring and late summer is another high training period.

Top 10 Courses Aug 1 - Dec 12, 2016



- Relationship Violence and Sexual Misconduct (RVSM) Policy Training
- Chemical Hygiene, Laboratory Safety, and Hazardous Waste Initial
- Biosafety Principles
- Bloodborne Pathogen Awareness
- Hazardous Waste Refresher
- Bloodborne Pathogen Initial
- Compressed Gas Cylinder Safety
- Biosafety Refresher
- Autoclave Safety

There are over 105 courses accessible through Saba LMS plus CITI and other vendor courses that are also tracked. [See list.](#)

Tracking Responsibilities

Primary Investigators are responsible for ensuring project personnel receive all required training. Audits of training often focus on the project level. Teams can include employees and unpaid students and affiliates. In some cases, ORA-EHS only needs to document training provided by the affiliate agency (Van Andel, Sparrow Hospital), while other times MSU is responsible for delivering the training also.

Because exposure related diseases may not show up for decades, some training records must be retained even after someone leaves MSU. For example, bloodborne pathogens required retaining records for 3 years while the asbestos requirement is 30 years.

In addition to delivering training in-person and through Saba LMS online, the LMS is used to track other non-MSU courses that support researchers.

CITI Programs.org License

ORA pays for membership in the CITI Programs.org (Collaborative Institute Training Initiative) for hundreds of other courses related to higher education researchers. Through connection with MSU Single-Sign-On, the MSU community can complete courses in CITI programs. Those training records are imported and stored in Saba LMS.

- In **2016, over 1,338 graduate students completed RCR** (Responsible Conduct of Research) training in CITI Programs.org. This is training required by several federal agencies (NIH, NSF, USDA).
- In **2016, 7,156 training modules** in total were completed by MSU faculty, staff, and students in the CITI Programs.org on a wide range of research-related subjects (animal care, human subjects protection, data management, conflict of interest, etc.)

On-Site / In-House Unit Training

Primary investigators and units administrators use Saba to record site-specific safety training alongside their standard online training.

A recent AAHRPP audit report recommended MSU's Human Research Protection Program formalize and document the IRB personnel and IRB committee members training. Webinars, conference training events, in-house updates on regulations and procedures, and any AHRPP certifications staff have earned are now recorded in the LMS.

Supervisor-Subordinate Relationships

It is required by regulation to track training by the supervisor. At MSU, with constant turnover of students and working in multiple labs and multiple grants, it is an extreme challenge to track the relationships of primary investigators and their project personnel. ORA-EHS information technologists work hard to maintain connections to the HR system, SIS, and utilize a formal helpdesk support system to receive and act on up personnel updates.

Example Calculations

MSU Person Type Percentages

November 1, 2015 – October 31, 2016

25,384 distinct training registrants, of which...

7310 grad students

5610 staff

5226 faculty

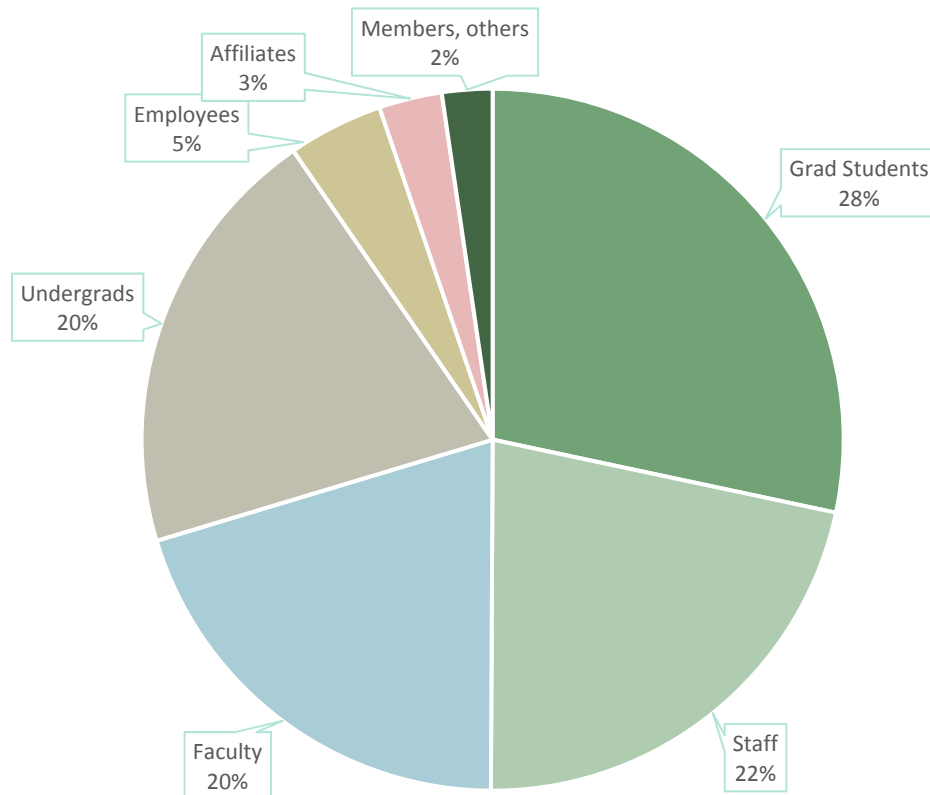
5169 undergrads

1134 employees

750 non-MSU affiliate registrants (community ID)

38 members (designation from HR system)

596 other (accounts without details on primary affiliation)

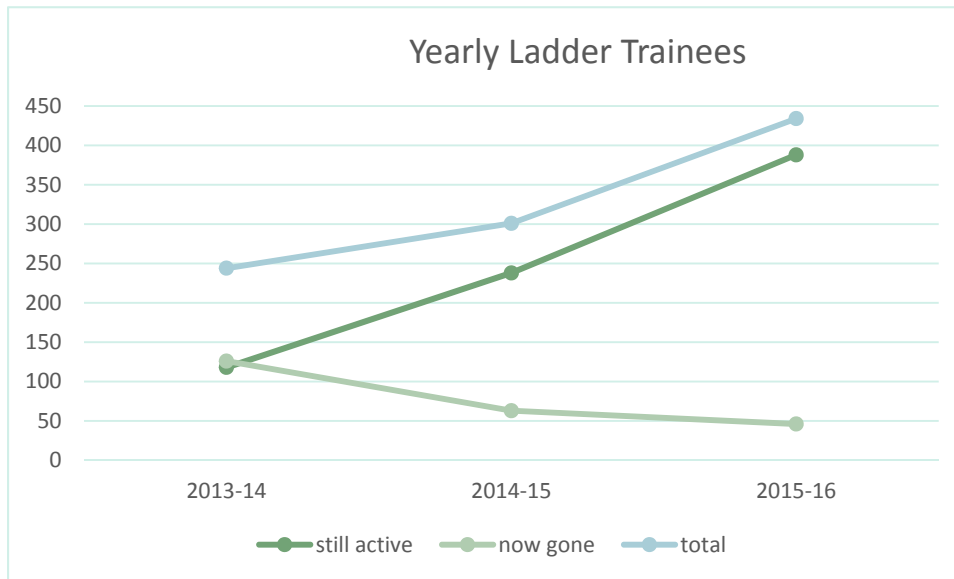


Turnover Rate

Ladder Safety Course Completions in Past 3 years

| Current Status | 2013-14 | 2014-15 | 2015-16 |
|----------------|---------|---------|---------|
| still active | 118 | 238 | 388 |
| now gone | 126 | 63 | 46 |
| total | 244 | 301 | 434 |

While a trainee may be still active at MSU and in the training system, the person's role may have changed since the training (e.g. from employee to student, from student to employee).



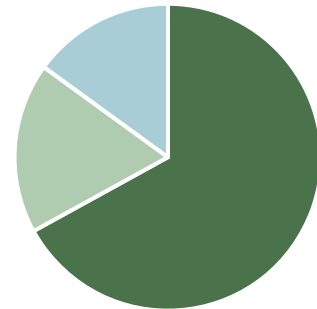
Research/Academic-to-Administrative/Services Unit Ratio

Aerial Lift

Training Courses

of trainees per MSU unit (employment funding source)

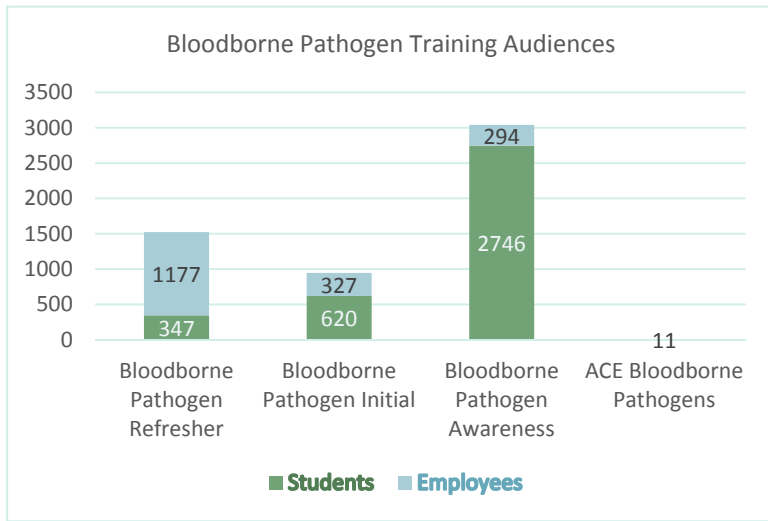
| | | |
|----------------------|----|---------------------------------------|
| Aerial Lift Hands-On | 1 | Nat'l Superconducting Cyclotron Lab |
| Aerial Lift Hands-On | 10 | Facility For Rare Isotope Beams |
| Aerial Lift Hands-On | 9 | Performing Arts Facilities & Programs |
| Aerial Lift Hands-On | 2 | IPF Mechanical Services |
| Aerial Lift Hands-On | 3 | IPF HVAC Services |
| Aerial Lift Hands-On | 1 | IPF Electrical Services |
| Aerial Lift Hands-On | 6 | Electrical Technology |
| Aerial Lift Hands-On | 7 | IPF Roofing |
| Aerial Lift Hands-On | 1 | IPF Telecommunications |
| Aerial Lift Hands-On | 3 | IPF Power and Water |
| Aerial Lift Hands-On | 1 | Breslin Center |
| Aerial Lift Hands-On | 2 | IPF Safety And Security Services |
| Aerial Lift Hands-On | 2 | IPF Metal Services |
| Aerial Lift Hands-On | 3 | no unit, students |
| Aerial Lift | 1 | Dept of Horticulture ANR |
| Aerial Lift | 1 | Nat'l Superconducting Cyclotron Lab |
| Aerial Lift | 6 | Facility For Rare Isotope Beams |
| Aerial Lift | 1 | Art Museum |
| Aerial Lift | 7 | Performing Arts Facilities & Programs |
| Aerial Lift | 1 | Land Management |
| Aerial Lift | 1 | Regulatory Affairs |
| Aerial Lift | 1 | IPF Custodial Services |
| Aerial Lift | 1 | IPF |
| Aerial Lift | 7 | IPF Landscape Services |
| Aerial Lift | 2 | IPF Mechanical Services |
| Aerial Lift | 5 | IPF HVAC Services |
| Aerial Lift | 1 | IPF Electrical Services |
| Aerial Lift | 3 | IPF 2nd Shift operations |
| Aerial Lift | 7 | Electrical Technology |
| Aerial Lift | 1 | IPF |
| Aerial Lift | 6 | IPF Roofing |
| Aerial Lift | 4 | IPF Power and Water |
| Aerial Lift | 1 | IPF Recycling |
| Aerial Lift | 2 | IPF Safety And Security Services |
| Aerial Lift | 2 | IPF Metal Services |
| Aerial Lift | 15 | no unit, students |



- Facilities, Services
- Students
- Faculty, Post-Docs

In this example, of 127 aerial lift training completions in 2016, 18 were by purely academic audience (students who were not also employed at MSU) at least not at the time the report was run in December 2016. The individual records indicate that fifteen were faculty and post docs. In this example, 26% of the trainees were directly in the role of research or teaching.

Proportion of Employees to Students in Online Course
Bloodborne Pathogens – 5,329 courses delivered in 2016.



Students' records do not include department codes if they do not receive income. Thus some student employees and some grad students may be included in the Employee totals rather than the Student totals.

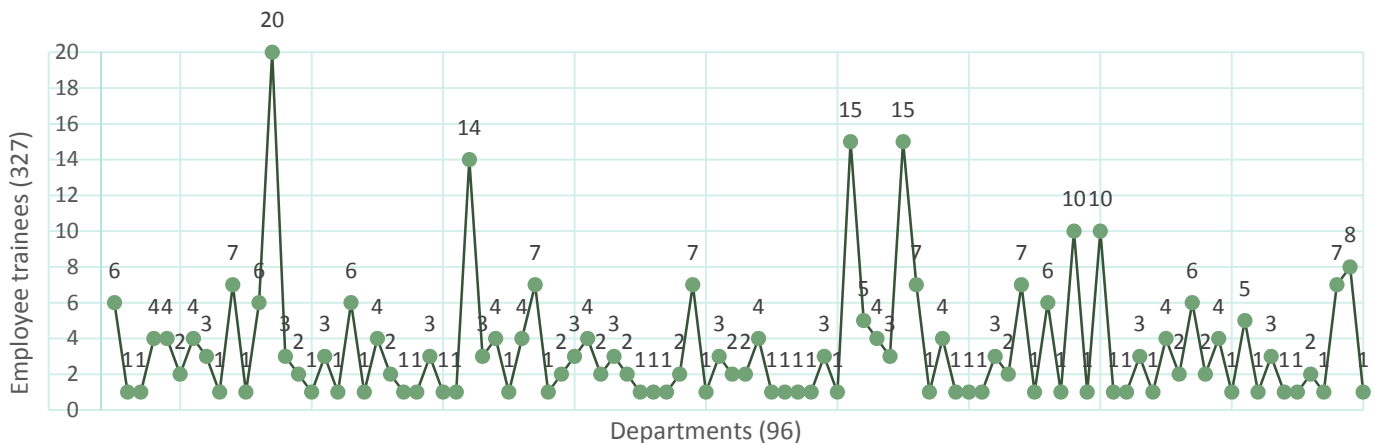
Note that department #10072214 is IPF Custodial Services. This unit has 197 employees in Saba system currently. The high number of trainees (163) is a reflection of a) number of people at risk of contact with blood through their work and b) turnover rate.

In this example, there are too many departments and courses to list effectively. They have been totaled for each course by employee versus student with the number of departments where the employees originate.

| 5 Courses | Students | Employees | Departments | |
|-------------------------------------|----------|-----------|-------------|-----------------------------|
| Bloodborne Pathogen Refresher | 347 | 1177 | 140 | |
| Bloodborne Pathogen Initial | 620 | 327 | 96 | |
| Bloodborne Pathogen Awareness | 2746 | 294* | 61 | *167 employees from 1 dept. |
| ACE Bloodborne Pathogens | | 11 | 2 | |
| BPA for Non-MSU Residents & Fellows | | | | 18 Affiliates |

Employing units and their number of trainees per MSU unit (employment funding source)

Example: Bloodborne Pathogens Initial – All completions in 2016



All Courses for Registration and/or Delivery in Saba LMS

| | | |
|--|--|---|
| ACE Bloodborne Pathogens | Back Safety | Basics for Working with Rabbits |
| Abrasive Blasting Cabinet Safety | Basics for Working with Amphibians | Basics for Working with Rodents |
| Aerial Lift | Basics for Working with Beef Cattle | Basics for Working with Sheep |
| Aerial Lift Hands-On | Basics for Working with Cats | Basics for Working with Swine |
| Analytical X-Ray Radiation | Basics for Working with Dairy Cattle | Biological Substance Shipping |
| Asbestos Awareness Refresher | Basics for Working with Dogs | Biosafety Course Exception |
| Asbestos Awareness for Non-Maintenance/Non-Custodial Personnel | Basics for Working with Fish | Biosafety Principles |
| Asbestos Information For Laboratory Users | Basics for Working with Horses | Biosafety Refresher |
| Autoclave Safety | Basics for Working with Poultry | Bloodborne Pathogen Awareness |
| Boodborne Pathogen Initial | Institutional Data Policy Review | Bloodborne Pathogen Awareness for Non-MSU Res/Fellows |
| Bloodborne Pathogen Refresher | Laboratory Security Awareness | |
| Breeding Flags | Ladder Safety | Overview of Human Research Protection Requirements |
| Chain Hoists Safety | Laser Safety | PI Responsibilities Under NIH Guidelines |
| Chemical Hygiene, Laboratory Safety, and Hazardous Waste Initial | Lock Out Tag Out | Powered Air-Purifying Respirator |
| Compressed Gas Cylinder Safety | Lock Out Tag Out Affected Employee | Powered Low-Lift |
| Confined Space Initial | MIOSHA Metals Awareness Refresher | QuILL Foundations |
| Controlled Substances Awareness | MSU Human Research Protection Program Requirements With Non-MSU IRB Training | RCR Equivalent for USDA-NIFA |
| Cryogen Safety | MSU Human Research Protection Requirements | Radiation Safety Refresher |
| Cyclotron Radiation Refresher | Medical Waste Management | Radiation Sealed Source Initial |
| Design eLearning - by Epigeum | Mouse & Rat: Humane Restraint and Experimental Techniques | Radiation Sealed Source Refresher |
| Financial Conflict of Interest (FCOI) | NIH-OACU Rodent Blood Collection Procedures | Respirator Initial |
| Foreign Corrupt Practices Act | NIH-OACU Rodent Compound Administration Procedures | Respirator Initial N95 |
| Fork Truck Hands-On | NIH-OACU Survival Rodent Surgery | Respirator Refresher |
| Fork Truck Operator | Non-Human Primate Materials Biohazard | Respirator Refresher N95 |
| Fraud Awareness – Providers | Non-Medical Sharps Waste Management | Rodent Special Notice Flags |
| Fraud Awareness – Staff | Non-Regulated Vehicles | SPCC/PIPP Management |
| Global Harmonization System for Laboratory Workers | Occupational Health And Safety For Academic Students | Self-contained Breathing Apparatus |
| Hand And Portable Power Tools | Overhead Crane Refresher | Storm Water Protection |
| Hazard Communication | | Thermal Stress |
| Hazardous Waste Refresher | | Tractor Hands-On |
| Hearing Conservation Program | | Tractor Safety |
| HIPAA | | Van Andel Orientation |
| Human Research Protection Alternate Training | | Well-Head Protection Program |
| I-9 Compliance Training | | Working in Animal Facilities - Service Personnel |
| IACUC Tutorial | | Working with CAR for Rodent Users |

Components of a COMPLIANCE Training System

While most LMS meet the needs for academic purposes or for selling optional training courses to individuals, a regulatory training system has additional requirements.

Auditing – e-signatures, time stamps, audit trails, completion tracking, exception reporting, data security, manager-trainee relationships (OSHA), record retention (3-30 years)

Risk Visibility – Job position, project responsibilities, reports, exceptions

Content Registration, Delivery, Tracking – AICC & SCORM compliant, ADA compliant, in-person & online options

Connection to Business Process – Portal for employees, connectable to all user systems (SIS, HR, single-sign-on) plus non-MSU affiliate access

Retraining Schedules & Notifications - Addresses regulations that require period (1, 2, 3, 4 year periods depending on law governing that topic) with flexible and automated certification set-ups and emailing.