



ON OUR WATCH

ANNUAL REPORT
JULY 1, 2020 - JUNE 30, 2021

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ILLINOIS FIRE SERVICE INSTITUTE
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

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ILLINOIS FIRE SERVICE INSTITUTE

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

The Illinois Fire Service Institute (IFSI) is the statutory State Fire Academy for Illinois. It serves as the oldest continuous fire training institution in the United States. Since 1925, first responders from across the state, the nation, and the world have relied on IFSI to deliver hands-on, innovative, and top-quality training, education, and research.

FY 2021 NUMBERS AT A GLANCE:

38,210

STUDENTS REACHED

1,212

COURSES OFFERED

17,874

CLASS HOURS

1,193

AGENCIES SERVED

421,298

STUDENT HOURS

101/102

ILLINOIS COUNTIES SERVED

259

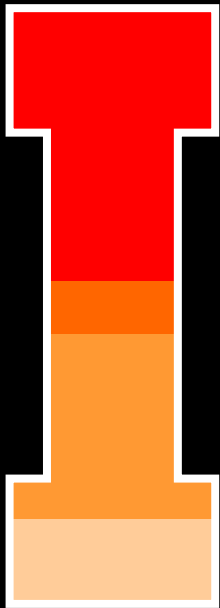
UNIQUE DELIVERY LOCATIONS IN ILLINOIS

1,013

STUDENTS IN OFFICER TRAINING



ENROLLMENT BY PROGRAM



- **45%** FIREFIGHTING
- **7%** INDUSTRIAL
- **35%** SPECIAL OPERATIONS TRAINING PROGRAM
- **13%** OTHER
 - ICS/NIMS
 - LDDM
 - EMS
 - RESILIENCY

ENROLLMENT BY CAREER TYPE



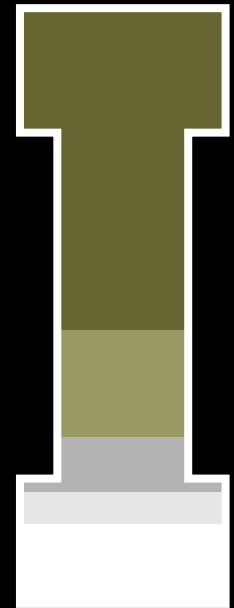
- **51%** VOLUNTEER
- **20%** PAID
- **13%** PAID ON-CALL
- **12%** COMBINED

STUDENT REGISTRATIONS BY LOCATION



- **68%** STUDENTS COMPLETED COURSES AT LOCATIONS OTHER THAN IFSI MAIN CAMPUS
- **32%** STUDENTS COMPLETED COURSES ON MAIN IFSI CAMPUS IN CHAMPAIGN, IL

SPECIAL OPERATIONS TRAINING PROGRAM SUMMARY



- **61%** HAZMAT
- **17%** VEHICULAR RESCUE
- **6%** RESPONDER INTERVENTION TEAM
- **4%** AG RESCUE
- **12%** OTHER
 - CONFINED SPACE
 - ROPE RESCUE
 - STRUCTURAL COLLAPSE
 - TRENCH RESCUE



The Cornerstone Program supports the delivery of essential skills training to local fire departments, MABAS Divisions and Mutual Aid Associations throughout the state.

Training is coordinated through eight IFSI Regional Representatives. Courses are funded through the Office of the Illinois State Fire Marshal and available at no cost to students or fire departments.

PROGRAM STATS

635
CLASSES DELIVERED
486
DEPARTMENTS SERVED
12,863
STUDENTS REACHED

DELIVERY BY REGION

Region	Classes	Students	Class Hours
Northeast	43	810	6,056.5
Cook County	68	1,223	5,789
North Central	54	838	2,756
Northwest	33	546	3,506
Central	74	1,303	6,242
East Central*	91	1,338	5,738
Southwest	128	2,072	9,600
Southern	38	736	4,026.5
Other**	106	3,997	28,205
TOTAL	635	12,863	71,919

*Includes Champaign Light and Fight courses.
 **These class deliveries supported multiple regions.

FIREFIGHTING PROGRAMS

The IFSI Firefighting Program offers hands-on training opportunities for first responders. Courses provide students with a realistic learning experience.

FIREFIGHTING PROGRAMS SUMMARY		
	# Students	# Hours
Advanced Breathing Apparatus Specialist (Smoke Divers)	108	2,160
Advanced Technician Firefighter / NFPA FF II	74	2,440
Basic Firefighter / NFPA FF I Academy	68	22,280
Basic Operations Firefighter / NFPA FF I Blended	603	92,750
Basic Firefighter / NFPA FF I Online (Modules A, B, C)	175	12,211
Driver/Operator Courses	2,618	15,259
Engine Company Operations	316	3,176
Fireground Command Officer School	19	760
Fireground Company Officer School	72	2,856
General Firefighting Courses	4,889	24,934
Industrial Firefighting	1,806	2,200
Investigation	320	6,648
Oil and Gas	1,419	5,776
Prevention	13	416
Truck Company Operations	128	1,848
Wildland Firefighting	213	4,220
TOTALS	12,841	199,934

SPECIAL OPERATIONS TRAINING PROGRAM

The Illinois Fire Service Institute Special Operations Training Program (SOTP) delivers technical rescue awareness and hazardous materials training to first responders. Courses offer immersive training experiences that challenge even the most experienced students. IFSI SOTP is at the national forefront of technical rescue awareness and hazardous material training programs.

SPECIAL OPERATIONS TRAINING PROGRAMS SUMMARY		
	# Students	# Hours
AGRICULTURE	465	2,823
CONFINED SPACE	173	6,974
HAZARDOUS MATERIALS	6,470	41,965
RESPONDER INTERVENTION TEAM (RIT)	668	4,212
ROPE RESCUE	381	11,874
STRUCTURAL COLLAPSE	270	8,123
TRENCH RESCUE	111	3,544
VEHICULAR RESCUE	1,530	25,212
TOTALS	10,068	104,727

NATIONAL INCIDENT MANAGEMENT SYSTEM

The National Incident Management (NIMS) Program offers training in incident management to response organizations throughout the State of Illinois. **In FY2021, the NIMS/ICS Program delivered 56 classes to 943 students in 24 training locations.**

LEADERSHIP DEVELOPMENT & DECISION MAKING

The Leadership Development and Decision Making (LDDM) Program offers premier development/decision-making training and education courses that have consistent themes, priorities, and lines of education in order to institutionalize the highest-quality leadership in the fire service. **In FY2021, the LDDM program impacted 181 students with 4,193 class hours and 24 different class deliveries.**

RESILIENCY TRAINING FOR FIRST RESPONDERS

Resiliency training provides first responders with the necessary tools to remain resilient to the stressors that come with the job as well as stress from off the job. The First Responder Resiliency and Mental Health Awareness Project is infused in the curriculum of multiple IFSI courses. This training seeks to remove the stigma surrounding the discussion of mental health, trauma, and suicide. **Resiliency training reached 358 students through 28 courses for a total of 1,430 student hours in FY2021.**



CURRICULUM

The Illinois Fire Service Institute continues to offer the highest quality in training and education. Evaluation methods were audited and reviewed once again this year through a third-party process. IFSI has maintained accreditation with the National Board on Fire Service Professional Qualifications (Pro Board) and International Fire Service Accreditation Congress (IFSAC). IFSI continued to expand national certification opportunities for our students.

In FY2021, IFSI issued 3,140 Pro Board certifications and 907 IFSAC certifications. IFSI has **34 Pro Board approved levels and 9 IFSAC approved levels.** The Testing Office scored **5,442 total IFSI exams.** The Curriculum Office supported the update of **21 existing courses and the development of 13 new courses.** IFSI delivers **105 courses that award EMS Continuing Education Units (CEUs).**

Test validity and relevancy is critical to our programs. As a result, the testing office validated many test banks, ensuring we are testing the knowledge that the job requires. The Testing Office is also working to implement new exam management software called Acadis which will be a bridge from the current paper-based system into what will become Computer Based Testing (CBT). CBT technology will provide the flexibility for immediate, unofficial grade delivery and missed question feedback.

FY2021 Highlights:

- We now offer both ProBoard and IFSAC national certification for Airport Firefighter
- We now offer ProBoard national certification for Public Fire Life Safety Educator I





The IFSI Research team welcomed two new members.

Kristen Massey (Research Project Manager) and
Dac Nguyen (Research Scientist)

to help continue to grow the IFSI Research Team.

Completed data collection:

- IFSI PPE Interface Human subjects testing: The focus of this project was to examine the tradeoffs between the increased protection from chemical exposure and cardiovascular stress/heat strain. This study brought 24 firefighters and many researchers to the grounds with support from numerous IFSI functional groups. Biological exposure measures (breath and urine) and physiological exertion data (heart rate and core temperature) were collected with various gear and base layer configurations.
- Nuclear Engineering: The research team conducted 60 trials of simulated industrial firefighting response in a nuclear reactor switchgear control room. Firefighters' motion, search patterns, and decision-making processes were recorded to be included in simulation models.
- HCN measurements: This project was in collaboration with Underwriters Laboratories Fire Safety Research Institute, focusing on quantifying production and transport of hydrogen cyanide in residential structure fires by redesigning sample extraction processes in full scale residential fire test.

Ongoing Data Collection:

- Nozzle Study: to study the nozzle reaction force exerted on a firefighter by a spraying nozzle from different angles, nozzle types, and different diameter of supply hose.

In FY2021, new collaborations include:

- Fire Safety Preparedness For Individuals who use Wheelchairs and Scooters Living with Spinal Cord Injury. Led by Dr Laura Rice from Kinesiology & Community Health, funded by the Craig H. Neilsen Foundation.
- Effect of PFAS on firefighters' health. Led by Dr. Joseph Irudayaraj, Professor of Bioengineering and Associate Director of Cancer Center at UIUC, funded by UIUC Office of Research.

IFSI Outreach and Engagement

- Exposure Reduction Project in collaboration with Office of the State Fire Marshal and MABAS-IL, based on research from IFSI, UL FSRI, NIOSH, and Skidmore College. We provided preliminary exposure reduction training to **1090** firefighters, distributing almost **700** kits to fire departments throughout the State of Illinois. Since its inception, the program has delivered training to over **3,000** firefighters, distributed almost **2,000** kits, and put training and equipment in the hands of departments impacting **23,000** firefighters.
- Presented our Preliminary Exposure Reduction Efforts at the National Firefighter Cancer Symposium at the University of Miami.
- Participated in the 2021 National Fire Service Research Agenda symposium to outline the priorities of the next five years of fire service driven research.
- Received a medal of commendation from the Brazilian Federal District Firefighters in recognition of our partnership.

Published many articles in high impact academic journals such as International Fire Service Journal of Leadership and Management, International Journal of Hygiene and Environmental, Ergonomics, Vascular Medicine, Fire Technology, Fire Safety Journal, and European Journal of Applied Physiology. List of publications can be found at <https://www.fsi.illinois.edu/research/2018.cfm>



LIBRARY

The IFSI Library is the only library in the state dedicated to fire and emergency services. It is also the third largest fire and emergency services library in the United States. The library holdings included **75,085** titles as of June 2021.

FY2021 REFERENCE REQUESTS:

The IFSI Library Team answered **5,511** reference requests in total, including **67** in-depth, long-term reference requests

- **972** reference requests answered for IFSI instructors, staff & students
- **132** reference requests related to the IFSI Curriculum Department
- **67** reference requests for IFSI Research
- **859** reference requests from Illinois firefighters/fire departments
- **395** reference requests answered for UIUC staff and students
- **126** reference requests for International Partners' research

FY2021 HIGHLIGHTS:

- The Library added **425** items to the collection
- Received **51** general donations
- Added **35** borrowers
- Loaned **1,309** items
- Received **25,457** views of online subject guides (LibGuides)
- **3,178** training and outreach emails sent to **438** Illinois fire departments
- **25** user training workshops delivered to **115** firefighter/patrons
- Added **3** new online subject guides:
 - Emergency Responders and Pandemics
 - Disaster Preparedness for Libraries
 - Diversity in the Library

INTERNATIONAL PROGRAM HIGHLIGHTS

As of FY2021, regardless of the COVID-19 pandemic, IFSI International Programs continued to deliver international outreach services, and built a viable global community of 793 individuals, consisting of 423 librarians. The group also includes 142 scholars and 228 first responders representing 186 organizations (libraries, universities, research institutes and fire organizations).

The Chinese Librarian Scholarly Exchange Program (CLSEP) has received 423 librarians (2005-2019) from 145 organizations. The Visiting Scholar Program has hosted 142 scholars (140 Chinese, 1 Brazil, 1 Netherlands) from 76 institutions. During the COVID-19 pandemic, the International Program coordinated and hosted 28 virtual scholarly activities via Zoom with a total of 775 participants.

In FY2021, the International Program and the Library team submitted publications including 1 journal article, 3 conference papers, 2 posters, and 2 special issues. Head Librarian Dr. Lian Ruan and Dr. Xingye Du from the National Science Library in Beijing, co-edited a special issue for Library Trends, titled "Digital Humanities and Libraries in China".

In October 2020, Dr. Lian Ruan presented "Research Collaboration on DH: A Publishing of Special Issue of Library Trends" at the China DH 2020 (Shanghai) Conference and the "Construction and Service of Collection Resources from the Perspective of Digital Humanities" Sub-forum for the Shanghai Library.

In May 2021, Dr. Lian Ruan presented on "International Outreach Services at the Illinois State Fire Academy Library" at the Medical Library Association (MLA). In June 2021, Dr. Lian Ruan and Shuyi Liu presented at the Chinese American Librarians Association (CALA) Annual Poster Session on the topic, "Knowledge Management Initiatives at Illinois State Fire Academy Library".

The IFSI Library maintains the Illinois Firefighter Medal of Honor and Medal of Valor Database and the Illinois Firefighter Line of Duty Death Database (IFLODD). The staff also supports continued exhibitions in the IFSI Firefighter Memorial Hall.

- **137,290** IFLODD database hits (since 5/2007)
- **906** IFLODD firefighter records
- **813** firefighters with incident summaries
- **1524** images and **14** total oral history interviews (as of 6/2021)

Digitized, edited, reformatted, and uploaded all Illinois Fire College brochures (over 90 historical brochures dating to 1925) into the Illinois Digital Environment for Access to Learning and Scholarship (IDEALS) (<https://www.ideals.illinois.edu/handle/2142/34188/browse>), including required metadata, making them available for the first time to IFSI, Illinois firefighters, and the general public.

Worked with the Illinois Digital Environment for Access to Learning and Scholarship (IDEALS) to make key IFSI documents widely available to firefighters and the general public, with over **197,610** downloads since 2006.

Worked with IFSI IT department to complete comprehensive software update for the library catalog, including both the staff interface and public interface for better functionality and stability.

Continued exhibits in Firefighter Memorial Hall (e.g., extensively researching 5 former instructors and added them to IFSI Instructor Memorial Exhibit, line of duty death exhibits, rotating Significant Fire and Emergencies in Illinois History posters).

AFFILIATE SUPPORT

Our many strategic affiliations allow us to share knowledge and resources with leading educators, researchers, corporations, professional associations, and other organizations. In addition to those listed, we are grateful for the support received by fire service vendors and suppliers who contribute to fulfilling our mission.

IFSI AFFILIATES:

- Office of the Illinois State Fire Marshal
- Mutual Aid Box Alarm System
- Illinois Fire Chiefs Association
- Illinois Firefighters Association
- Illinois Association of Fire Protection Districts
- Associated Fire Fighters of Illinois
- Illinois Professional Firefighters Association
- Illinois Society of Fire Service Instructors
- Illinois Fire Safety Alliance
- Illinois Fire Inspectors Association
- Northern Illinois Alliance of Fire Protection Districts
- Illinois Chapter International Association of Arson Investigators
- State of Illinois Fire Caucus
- Underwriters Laboratory
- National Institute for Occupational Safety and Health
- Illinois Department of Natural Resources
- Illinois Propane Education and Research Council

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Our Mission:
**Helping Firefighters Do Their Work Through Training, Education,
Information, and Research.**

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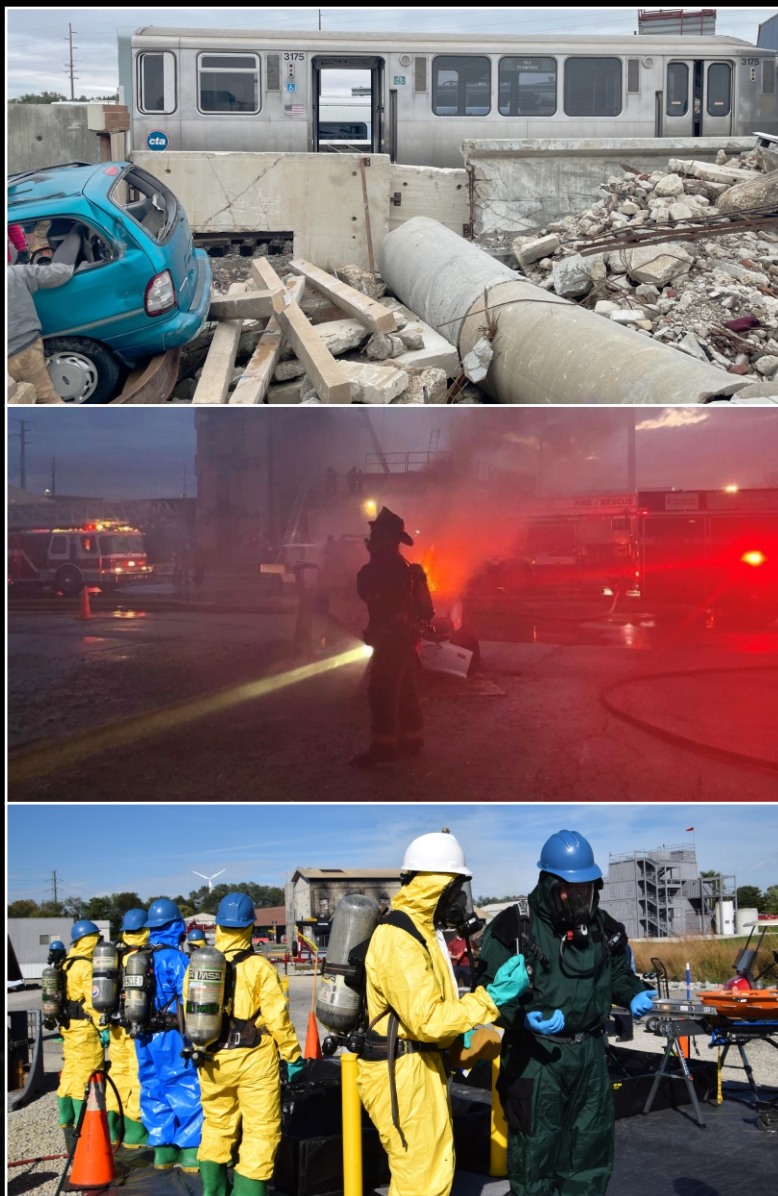
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