UW-Stout M.S. Risk Control and Safety Management
Program Enhancement

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7/1/16 through 6/30/21 TPG Five-Year Summary
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Submitted by:

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## List of Abbreviations

| Abbreviation | Full Term / Name |
|---|---|
| ASSP | American Society of Safety Professionals |
| CIH | Certified Industrial Hygienist |
| CSP | Certified Safety Professional |
| DBA | Doctorate of Business Administration |
| DIT | Doctorate of Industrial Technology |
| EMG | Electromyogram |
| ESL | English as a second language |
| PDC | Professional Development Course |
| SWOT | Strengths, Weaknesses, Opportunities and Threats |

## Abstract

In 1974, the University of Wisconsin-Stout initiated the M.S. Safety degree program which was eventually changed to M.S. Risk Control and Safety Management. Since its inception, this graduate program has maintained a strong focus on providing both knowledge as well as hands-on risk identification, assessment and control-based competencies to individuals who possess engineering, business, natural sciences, management, rehabilitation, legal, health care and education-based backgrounds. The program's mission is to preserve tomorrow's workforce and their communities by instilling risk control and safety management-based principles, knowledge, and skills into the students to promote the protection of employee, property and environmental-based assets. Since 1974, the program has produced 559 graduates with annual enrollments that range between 25 and 30 students who may participate in traditional face-to-face on-campus weekday evening classes which are also teleconferenced for distance-based individuals. During the past 20 years, the University of Wisconsin Stout's M.S. Risk Control and Safety Management program has been significantly strengthened as a result of a partnership with NIOSH's Training Grant Program (TPG) initiative. The most recent 2016 to 2021 TPG cycle primarily focused on enhancing the curriculum and instruction of this graduate program. The specific goals of the grant involved providing financial assistance for qualified underrepresented and underserved students, to support the associated faculty's professional development and to provide instructional support in the form of services, equipment and supplies. The NIOSH TPG-supported success of the University of Wisconsin-Stout's M.S. Risk Control and Safety Management program can be gauged through its consistent student enrollments and graduation rates as well as the diverse range of professions that the corresponding graduates enter. The program's graduates typically become integral components of an organization's management team who promote the protection of worker safety, health and well-being in various business enterprises that include construction, regulatory compliance, general manufacturing, safety and health consulting, health care, food/beverage processing, insurance, government, transportation, chemical refinement, education and high-tech manufacturing. Hourly employees often convey their process risk concerns to on-staff safety and health professionals who then promote upper management personnel to provide the necessary risk-reduction resources to mitigate the applicable risks. The program's graduates often view themselves as agents of change who are responsible for identifying process deficiencies that possess a potential for human, property and/or environmental loss as well as to assist with the identification of situations where significant loss is already occurring. The program graduates are typically responsible for assisting with the design of risk-reduction measures which ultimately prevent employee injuries and therefore provide long-term organizational financial stability. While extensive technical and management knowledge/skillsets are required of the M.S. Risk Control and Safety Management's program graduates, the rewards of continually protecting people, property and environmental assets causes such individuals to regard their career choice as being exceedingly rewarding.

## TPG Summary

The five-year objectives for the University of Wisconsin-Stout's M.S. Risk Control and Safety Management program's training grant focused on providing sustainable student support, promoting the recruitment of underrepresented / underserved minorities, enhancing the program's curriculum, and providing faculty with professional development opportunities. Following is an objective-based summary of the training-related grant's accomplishments from 7/1/16 through 6/30/21:

- **To provide financial support to student-trainees who possess an interest in pursuing a M.S. degree in risk control and safety management as well as to recruit deserving underrepresented minority students.** Throughout the training grant cycle, the training grant's PI / M.S. Risk Control and Safety Management Program Director as well as the associated faculty maintained a robust focus on recruiting science and/or engineering-based undergraduate degree-holding prospective students into the program. Individuals who possess environmental, vocational rehabilitation, education, business/management, human resources as well as hospitality and tourism degrees were targeted through face-to-face and virtual communications that the PI/Program Director initiated with various university representatives or through certain professional associations. Examples of grant-funded recruitment efforts include the PI/Program Director presenting to University of Wisconsin-based multicultural groups in 2016, 2017 and 2018, attendance at the National Black Student Union Conferences in 2019 and 2020, on-site participation in the Wisconsin Technology Education Association Conference in 2020, and virtual attendance at the Minnesota Technology and Engineering Education Association Conference in 2020. Faculty salary support permitted the PI/Program Director to leverage the recruitment strength of the program's 584 alumni by hosting town hall-type meetings in 2018 and 2019 as well as by instituting email-based communications in 2020 which resulted in the direct recruitment of seven students and the donation of $11,000 worth of industrial hygiene noise and particulate monitoring equipment to the program. The travel-based funding portion of the NIOSH grant permitted four students to attend the June 2019 ASSP conference in New Orleans and the November 2019 ASSP Future Leaders Conference in Chicago. Sixteen students attended the virtually delivered ASSP Future Leaders conference in the spring of 2021. In order to compensate for the Covid-19 pandemic travel restrictions that were imposed on UW-Stout during the spring of 2021, the grant permitted M.S Risk Control and Safety Management program students to enroll in ASSP online professional development courses (PDCs) in 2020. Feedback from the students on this initiative indicated that the ASSP's online PDCs are of significant quality and thus it's the PI/Program Director's intent to continue this student-focused professional development practice as long as the Covid-19 pandemic travel restrictions continue. While the Covid-19 pandemic significantly limited face-to-face recruitment activities after February of 2020, the PI/Program Director continued to take advantage of various opportunities to showcase the program during virtual career fairs and local safety-oriented association meetings. University and association-supported instructional initiatives since the summer of 2016 permitted the PI/Program Director to teach 71 metal casting sessions to young mixed-race adults in which the aspect of safety was heavily discussed and the manner in which rewarding careers exist in the risk control and safety management profession. During an association-supported metal casting humanitarian trip to Africa in 2017, the PI/Program Director placed a heavy emphasis on teaching risk control and safety management concepts to industrial workers and also worked to recruit bachelor-degreed individuals from the countries of Malawi, Tanzania and Kenya. This humanitarian support initiative resulted in the recruitment of an individual who eventually completed the M.S. Risk Control and Safety Management program in 2020 is now working as a Safety Coordinator for a western Wisconsin bridge beam construction firm. Additional university funded student recruitment efforts of the PI/Program Director involved the development of online marketing campaigns in 2020 and 2021 which significantly increased the number of national and international graduate-level applications and thus full-time student enrollments. These forms of university-funded recruitment support prove that UW-Stout is willing to invest in the M.S. Risk Control and Safety Management program so as to maintain its robust level of cultural diversity. Virtual profession-oriented presentations are periodically given by program alumni in order to engage and thus mentor current as well as prospective students. The M.S. Risk Control and Safety Management faculty collectively possess the goal of recruiting as well as retaining qualified underrepresented and underserved minority students. The success of this goal is reflected by the fact that of 83 students who were enrolled in the M.S. Risk Control and Safety Management program during the 2016 through the 2020 academic years, 17 (i.e., 20%) were individuals from minority / underrepresented backgrounds and 21 (i.e., 25%) were from China, Nepal, India, Saudi Arabia, Venezuela, Ghana and Nigeria. Student retention efforts by the PI/Program Director and the corresponding faculty involved closely monitoring the students' performance in order to ensure their mastery of each course's learning objectives and thus successfully complete the graduate program. In eleven instances during the grant cycle where the faculty informed the PI/Program Director of at-risk student performance, the prompt establishment of student support plans was 91% effective at maintaining the respective students' enrollment in the graduate program. From a trainee stipend support standpoint, approximately $311,000 in stipend, tuition and fee-related support was provided to various trainees during the July 2016 through the June 2021 grant cycle. This form of trainee support is critical to recruit individuals who possess strong science, management and other technical skills that appropriately dove-tail with the risk control and safety management profession.

- **To provide faculty support for teaching as well as professional development.** Throughout the 2016 to 2020 five-year grant cycle, the PI/Program Director was directly involved with all of the American Industrial Hygiene Association's annual conferences through in-person as well as else virtual settings. This conference-related participation witnessed the

PI/Program Director successfully completing 17 professional development courses and participating in 56 roundtable sessions which focus on emerging technologies as well as the associated risks that may be present in the work environment. The grant's travel funds also permitted the PI/Program Director to review 22 industrial operations which included steel bridge girder fabrication, road construction, pipeline installation, metal forming/plating/casting, government emergency response, wood scrap processing, quarrying, fertilizer mixing, petroleum refinement, food processing as well as medical device and polymer manufacturing. Such close contact with industry-related stakeholders was essential in order to successfully complete the 2020 M.S. Risk Control and Safety Management program revision process as well as develop applied student learning projects which prepare the next generation of professionals who will serve as future risk control and safety management professionals.

- **To provide instructional resources which will enhance coursework, course delivery, and student-based applied research.** The grant was highly beneficial to the M.S. Risk Control and Safety Management program from the standpoint of providing the respective students with various forms of ergonomic and industrial hygiene instrumentation which are essential to providing quantitative risk assessment data to management and engineering personnel. From an ergonomics standpoint, the grant permitted the purchase of two light meters, two portable electromyograms (EMGs), one wrist goniometer, and 15 manual goniometers. A broad range of industrial hygiene equipment which was purchased with grant funds included 12 portable confined space monitors, rotometers, 37 mm filter cassette holders, portable weather meters, aluminum cyclones, and calibration adapters. It is anticipated that the next five-year cycle of the grant will witness the purchase of low-flow sampling pumps as well as direct reading pump/tube instrumentation which will enhance the respective students' risk assessment-related competencies.

## Relevance of the Program to Public Health

The M.S. Risk Control and Safety Management program's relevance to public health can be found in ten of the program's eleven core courses which focus on controlling workplace chemical and biological hazards that may negatively impact the associated workers, their family members, as well as public individuals who are within the locale of workplace operations that present such hazards. The control of air, water, soil and employee clothing contamination-based hazards are also emphasized in the health and safety standards, industrial hygiene, process hazard management and environmental-based courses due to the far-reaching effects that certain contamination-related risks may impact members of the surrounding community during routine production as well as emergency situations.

## Key Personnel

From July 1 of 2016 through June 30 of 2021, a total of eight faculty members contributed to the professional success of the M.S. Risk Control and Safety Management program graduates. Following is a summary of the key faculty who have significantly contributed to the overall success of this graduate program:

Dr. Brian Finder, DIT, CIH, is the grant's Principle Investigator as well as the M.S. Risk Control and Safety Management Program Director and has been a full-time UW-Stout faculty member since 1995. Prior to being hired at UW-Stout, Dr. Finder accumulated 10 years of safety and industrial hygiene experience with semiconductor, footwear manufacturing and turkey growing/processing organizations. His teaching responsibilities included the courses of Occupational Safety/Risk Control, Human Factors Engineering/Ergonomics, Process Hazard Management, Risk Control Pre-Capstone and Risk Control Capstone. He performs ergonomics, safety and industrial hygiene-based risk assessments for a variety of government as well as private sector industrial entities and can be contacted at finderb@uwtout.edu or at (715) 232-1422.

Dr. John Dzissah has been a full-time UW-Stout faculty member since 2001 and is currently serving as the Chair of the Operations and Management Department. Prior to being hired at UW-Stout, Dr. Dzissah worked in the quality and production aspects of various manufacturing operations. He holds both M.S. and PhD degrees from the University of Louisville in Industrial Engineering and primarily instructs Quality Tools, Six Sigma, Production Operations Management and Engineering Economics. Dr. Dzissah's provides an exemplary level of support to UW-Stout and advises Risk Control Capstone thesis because of his significant occupational safety and ergonomics-related background. Dr. Dzissah can be contacted at dzissahj@uwstout.edu or at 715-232-1265.

Dr. Sally Dresdow has been a full-time UW-Stout faculty member since 2003 and has been involved with numerous all-university service-related functions which includes serving as Chair of the Graduate Education Committee. Dr. Dresdow originally taught various undergraduate as well as graduate-level management courses at the University of Green Bay. She holds a DBA in Organizational Behavior and Strategic Management from Southern Illinois University in Carbondale and taught the Organizational Research Methods courses until 2020. Dr. Dresdow can be contacted at dresdows@uwstout.edu or at 715-232-3085.

Dr. Dale Krageschmidt is an adjunct faculty who is currently employed as an Associate Professor and Graduate Program Director at Viterbo University in LaCrosse, Wisconsin. He holds a PhD in Environmental Engineering, an M.S. in Toxicology and Public Health, and a B.S. in Biology. Dr. Krageschmidt is a Certified Industrial Hygienist (CIH) and his past work experience includes employment with Mayo Clinic in Rochester, Minnesota as an Industrial Hygienist and Director of Safety and Security. He teaches the M.S. Risk Control program's Industrial Hygiene, Industrial Hygiene Instrumentation and Environmental Protection and Sustainability Management courses. Dr. Krageschmidt also performs industrial hygiene and employee health and safety consulting for various business and industrial entities. Dr. Krageschmidt can be contacted at krageschmidtd@uwstout.edu or at 608-796-3358.

Mr. Lyle Koerner is an adjunct instructor who served as the City of Eau Claire Fire Chief and currently teaches the program's Emergency Preparedness and Response course. Mr. Koerner earned his B.S. in Fire Engineering Technology from University of Cincinnati as well as a M.S. Risk Control degree from UW-Stout. He currently teaches hazardous materials technician, fire officer certification and incident command courses as well as performs fire extinguisher certification testing at Chippewa Valley Technical College in Eau Claire. Mr. Koerner can be contacted at lkoerner74@gmail.com as well as at (715) 832-8430.

Mr. James Uhlir is an adjunct instructor who currently works as the Director of Safety and Risk Management for UW-Stout and teaches the Risk Management Applications course. He holds a B.S. in Chemical Engineering, a M.S. in Public Administration and is a Certified Safety Professional (CSP) through the Board of Certified Safety Professionals. Mr. Uhlir holds emergency management and asbestos certifications and has worked as an officer with various non-profit organizations including local safety councils, Campus Safety, Health & Environmental Management Association (CSHEMA) and the American Red Cross. Mr. Uhlir can be contacted at uhlirj@uwstout.edu as well as at (715) 232-2188.

Mr. Steven Senor is an adjunct instructor who possesses 40 years of mid-level organizational manufacturing-based risk control and safety management experience and currently works as a Safety Manager for Cascade Tissues Group. He holds a B.S. in Education, M.S. in Risk Control and an EdS in Higher Education Administration from the University of Wisconsin-Stout. Mr. Senor has taught the Occupational Safety and Health Standards as well as the Risk Control Systems courses since August of 2019 and can be contacted at plcntme54@gmail.com as well as at 715-495-5831.

Dr. Benjamin Wood currently works for Minnesota OSHA as a Safety Consultant Principal and served an adjunct instructor in the program from 2016 to 2019 for the program's Occupational Safety and Health Standards as well as the Environmental Protection and Sustainability Management courses. Dr. Wood earned his M.S. Risk Control degree from UW-Stout and his Doctorate of Law from William Mitchell College of Law and can be contacted at woodb@uwstout.edu and at (651) 284-5362.

**TPG Website**

https://www.uwstout.edu/programs/ms-risk-control

**High Impact Stories**

A strength of the UW-Stout's M.S. Risk Control program is the manner in which all students are required to perform applied research projects in various technical / management-oriented courses as well as in the RC-735 Risk Control Capstone thesis course. The graduate-level thesis requires each student to identify a risk-based exposure that exists in a business / industrial setting and then perform the necessary literature review, data collection / interpretation and conclusion development activities to provide realistic risk reduction-oriented recommendations for the respective organization. It is believed that this type of applied research experience instills a scientific approach to the problem identification and control service that M.S. Risk Control students will typically provide to their future employers. Following are examples of fall 2016 through the spring of 2021 program graduates who entered the M.S. Risk Control and Safety Management program with different undergraduate degrees and subsequently demonstrated a significant application of the program's management as well as technology-based total asset protection concepts within varied business / industrial environments:

- Ms. MaryAnn Felicaino was from an underrepresented / underserved background and entered the M.S. Risk Control program in January of 2017 with a B.S. in Human Nutrition and Dietetics degree from Southern Illinois University – Carbondale. During the summer of 2017, she successfully completed an internship with Essentra Specialty Tapes in Forrest Park, Illinois, which yielded an Outstanding Student Co-op Award from the University of Wisconsin-Stout. Ms. Feliciano's Plan B thesis involved performing an analysis of safety training impediments that existed for English as a second language (ESL) employees which ultimately identified the presence of significant opportunities to improve the respective organization's training practices. In May of 2018, Ms. Feliciano accepted an Environmental health and Safety Specialist position with Seagate Technology LLC in Bloomington, Minnesota.

- Mr. Oscar Maldonado was from an underrepresented / underserved background and entered the M.S. Risk Control program in September of 2017 with a B.S. in Environmental Science, Management and Policy from the University of Minnesota. As a NIOSH trainee, Mr. Maldonado participated in an ASSP-sponsored professional development course (PDC) in Minneapolis, Minnesota. Mr. Maldonado performed an internship with Viking Tool and Drill in St. Paul, Minnesota, which entailed site-based hazard surveys as well as the development of lockout / tagout procedures for various forms of tool-machining equipment. He graduated in May of 2020 and works for Viking Tool and Drill as a Safety Representative.
- Ms. Nancy Montanez was from an underrepresented / underserved background and entered the M.S. Risk Control program in September of 2018 with a B.S. in Business Administration degree from the University of Wisconsin-Stout. As a NIOSH trainee, Ms. Montanez attended the 2019 ASSP Future Leaders Conference in Chicago and served as an officer in the UW-Stout ASSP Student Chapter. Ms. Montanez performed an internship during the summer of 2019 with Sentry Insurance which entailed the on-site evaluation of clients as well as the development of worker training materials. Her Plan B thesis was an applied problem which analyzed the various types of confined spaces that existed for a silicone tape manufacturer in western Wisconsin. Upon her graduation with a M.S. Risk Control degree from UW-Stout in December of 2019, Ms. Montanez immediately initiated employment with Wisconsin-based Sentry Insurance as a Risk Control Representative.
- Mr. Reginald Adjei-Poku was from an underrepresented / underserved background and entered the M.S. Risk Control program in September of 2018 with a B.A. in Geographical and Rural Development degree from the Kwame Nkrumah University of Science and Technology in Kumasi, Ghana. As a NIOSH trainee, Mr. Adjei-Poku attended the 2019 ASSP Future Leaders Conference in Chicago and also served as an officer in the UW-Stout ASSP Student Chapter. Mr. Adjei Poku performed an internship with an industrial chiller manufacturing company in western Wisconsin. His Plan B thesis was a study on hand injury risks and protection-based measures for a steel fabrication firm. After his graduation in May of 2020, Mr. Adjei-Poku initiated employment with Wisconsin-based Veritas Steel as a Safety Representative.
- Ms. Maija Taylor was from an un underrepresented / underserved background and entered the M.S. Risk Control program in January of 2019 with a B.A. History degree from the University of Alabama Birmingham. As a NIOSH trainee, Ms. Taylor attended the 2019 ASSP Conference in New Orleans, Louisiana, as well as the 2019 ASSP Future Leaders Conference in Chicago. Ms. Taylor performed an internship with a medical device manufacturing company in western Wisconsin. Her Plan B thesis was a study on flammable liquid handling and storage practices for a medical device firm. After her graduation in May of 2021, Ms. Taylor initiated employment with Wisconsin-based Amazon as a Safety, Health and Environmental Protection Representative.

Other notable forms of recognition / activities that occurred in relation to the M.S. Risk Control and Safety Management program include the following:

- In late 2019, the M.S. Risk Control and Safety Management program participated in a comprehensive university self-study that involved the collection and analysis of various forms of data which included the status of competing programs, curriculum currency, marketing initiatives, accreditation body recognition, lab equipment / facility resources, personnel support, course delivery methods, student graduation and placement rates. In addition, program satisfaction surveys were administered to current students, advisory committee members, key faculty and program graduates. The culmination of this comprehensive program assessment process yielded an accurate program SWOT analysis as well as realistic program improvement plans that were eventually disseminated to the respective Advisory Committee in April of 2020.
- The M.S. in Risk Control and Safety Management program's curriculum was updated in the spring of 2020 to reflect current technological as well as management strategies that in-the-field professionals utilize in order to minimize loss exposures that exist within their respective organizations. Extensive collaboration occurred among the PI/Program Director, business / industry professionals and the respective faculty to ensure the development of course descriptions and corresponding learning objectives which align with BCSP and American Society of Safety Professionals (ASSP)-stated functions that entry-level risk control and safety management professionals are expected to perform. The 30-credit program continues to offer traditional face-to-face on-campus weekday evening classes, although as of 9/1/20, all of the courses are augmented through an online instructional system to deliver the live lectures to distance-based students. The recorded class lectures are also posted within the online instructional system in order to accommodate professionally-employed individuals and/or those who are unable to participate in the live lectures. It is believed that this flexible course attendance approach has been vital to maintain the program's student enrollments during the Covid-19 pandemic situation.