Marymount University Mission

Marymount is a comprehensive Catholic university, guided by the traditions of the Religious of the Sacred Heart of Mary that emphasizes intellectual curiosity, service to others, and a global perspective. A Marymount education is grounded in the liberal arts, promotes career preparation, and provides opportunities for personal and professional growth. A student-centered learning community that values diversity and focuses on the education of the whole person, Marymount guides the intellectual, ethical, and spiritual development of each individual.
Summary of Accomplishments

The phrase that instantly comes to mind when describing Dr. Murphy is a woman ahead of her time. As one colleague stated, “Diane envisions the world of the future with both its human talents and technology needs.” This innovative and creative professor and researcher began her career during the late 1970s in the United Kingdom in a new field, chemical informatics. Before long, Dr. Murphy had become a world expert in this emerging field, so much so that she was invited to come to the U.S. to work on a project for the Environmental Protection Agency (EPA). However, it was not until 2002 that she became a full-time academic, starting as an assistant professor, to a now renowned full professor at Marymount University. Dr. Murphy is known for her tireless development of technology programs at the university, including the new fields of cybersecurity and data science; and also for her intense commitment to her students, using her experiences as a relatively poor first-in-family to college student, an immigrant, a career changer, and a female in male-dominated fields as a backdrop. Noted by one colleague, “Dr. Murphy… serves the best interest of the broader community fabric and sets a stellar example of academic faculty contributing deeply to the advancement of the profession.”

Teaching
A Marymount University education, as per its mission, focuses on creating “a student-centered learning community that values diversity and focuses on the education of the whole person,” including the hard and soft skills necessary for a professional career. As one colleague observed, “Diane’s students are from very diverse backgrounds with differing cultural make-up, perspectives and needs. Diane adjusts to this easily and embraces each individual’s strengths and gives each student confidence to engage, to present, and to contribute to the overall classroom effort.”

Dr. Murphy is devoted to using a holistic approach to her teaching and preparing the next generation of practitioners to meet the challenges of the field of information technology (IT) and cybersecurity. Dr. Murphy’s courses and teaching skill fulfills these objectives, and she is so revered by her students that she is identified as a top teacher each year at the annual faculty awards ceremony and has been nominated by her graduating students for the university’s Robert A. Draghi Outstanding Faculty Award for the past seven years.

Dr. Murphy’s learning environment promotes workplace readiness, and her undergraduate seminars in Information Technology are a good example of this. These 1-credit seminars focus on student success in Marymount’s technology programs and the students’ transitions into their internship and ultimately the workforce. One senior associate director at Marymount observed, “Diane requires students to physically step outside the institution to gain knowledge of real-world problems.” Thus, Dr. Murphy teaches her seminars through the process of experiential learning: students working in teams, preparing presentations, networking with alumni and professionals in community events, volunteering to support technology in the community, practicing ethical decision making, and then preparing a senior portfolio to provide evidence of their knowledge and skills for their job acquisition process. Resume writing and mock interviews are all part of the seminars, again as a testament to Dr. Murphy’s pedagogical emphasis on developing students for their profession.

At the master’s level, Dr. Murphy teaches within both the IT program and the newly-introduced cybersecurity program. Information Security Management is one of the courses that Dr. Murphy especially enjoys teaching, as she is able to share her knowledge and experience gained as a CEO of a software development company. It is designed around students learning from students with multiple research projects and presentation sessions during each class. The
content developed and presented through group work is supplemented with additional discussion and readings. Half the class, who are already working in the field, contribute their experience to the discussions, which the other half, who are still deciding on a career path, benefit greatly from. One colleague observed, “Diane has a ‘learn-by-doing’ approach to her teaching, encouraging collaboration among students.”

In designing curriculum, Dr. Murphy considers both career-changers and those who are currently working in the field, to ensure the programs closely match the in-demand jobs in the region. Recently, she lobbied for the addition of specialties in data science, digital health, and digital transformation to her programs and recently completed a project with a curriculum team, developing two new undergraduate specialties: cloud computing and game design and development (the latter supports the university’s new e-sports initiative). Dr. Murphy’s most recent contribution has been the implementation of a doctor of science (DSc) in cybersecurity. Dr. Murphy’s commitment to providing programs, specialties, and courses that keep pace with the ever-changing field of technology contributes greatly to the success of her programs. As one student reflected, “I can honestly say that many students, including myself, do not want to leave Marymount University because of Dr. Murphy and she continues to expand the Information Technology and Cybersecurity curriculum year after year.”

Dr. Murphy also recognizes the need for technology to be taught outside the IT curriculum. For example, she recently taught the class “Data, Data, Everywhere” as a Discover class, the introductory research and orientation class taken by all incoming students. Here she introduced the concepts of data science to a range of students in different majors by having the students engage in a survey of the streets in the neighborhood to see if they were elderly-friendly. They collected data, analyzed their results, and then prepared a report with visualizations. The students then reflected on the significance of data in their own discipline.

Dr. Murphy’s teaching and mentoring is not exclusive to students; she is also active in educating and helping faculty to improve their teaching, which was evidenced by one colleague who wrote: “As the department chair and a senior colleague, Diane invited me to her classroom to observe her teaching as well as offered to conduct a peer observation of my teaching. I have benefited so much from this persistent practice and support from her and grown professionally. Since I incorporated Dr. Murphy’s suggestions and teaching model to my classes, my course evaluations have been significantly improved year by year. I was granted tenure and promoted to associate professor...in 2014, and I am applying for advancement to full professor this fall. I would attribute part of my growth and achievement to Diane’s support and mentorship.”

**Discovery**
Dr. Murphy has wide-ranging research interests in technology, its application, and in computing education.

**Computing Education**
Dr. Murphy has published and presented extensively on computing education for more than 10 years and has contributed greatly to curriculum development at Marymount. In 2012, Dr. Murphy and her colleague Dr. Liu published *Fusing Communication and Writing Skills in the 21st Century’s IT/IS Curricula* in the Information Systems Education Journal, which discussed how and why writing was so important in the computer science discipline. Back in 2012, they began researching when and how to incorporate new technology courses into the IT curriculum, bearing in mind the curriculum approval process at academic institutions. The result of this research was a published holistic model which they have used extensively to update curriculum. Since then, they have researched and published in several publications on computing
education. In 2014, their paper entitled *The Document Explosion in the World of Big Data – Curriculum Considerations* was awarded the best paper at the 2013 Information Systems Educators Conference (ISECON), which was subsequently published in the Information Systems Education Journal.

More recently Dr. Murphy has focused her research on how the IT curriculum can be used to effectively prepare the students for the workplace, not just with up-to-date technical content but also with the soft skills that employers are demanding today. These findings were discussed in the paper *Are They Ready? Integrating Workforce Readiness into a Four-Year College IT/IS Curriculum*, which was presented and published in the Proceedings of the 20th SAIS (Southern Association for Information Systems) Conference. As employer technology talent needs are constantly changing, Dr. Murphy and colleagues have been researching ways to use technology itself to update the technology topics that should be included in programs. With her colleagues, Dr. Murphy has been examining natural language processing (NLP) techniques to detect the tools, languages, and skills that are included in job postings in our region and how this information can be used to inform curriculum development. Currently, the next step is using this information to analyze students' resumes and provide them with hints on how they might improve their resumes for the job of their choice.

Dr. Murphy, with her colleague Dr. Schaeffer, has recently been awarded a grant from NSF to create and implement an innovative program to address the need for more teachers in the cybersecurity field. Their proposal, titled “CyberTeach: From Cybersecurity Professional to Cybersecurity Professor,” was selected through the NSF's Secure and Trustworthy Cyberspace (Education) category. The grant will prepare doctoral students for a teaching role through workshops and mentored teaching experiences during their studies.

**Cybersecurity**

Dr. Murphy has actively researched the field of cybercrime, looking at the factors that influence a person to become a cyber criminal known as a “black hat hacker”. Some of the research has been aimed at helping parents identify the behaviors that might indicate that their teenage son or daughter is engaging in illegal cyber behavior. Her findings were presented in a paper at the 21st CISSE (Colloquium for Information Systems Security Education) in 2017 and helped to create a strategic framework to prevent and intervene in teen cybercrime. More recently, she has been researching ways to use technology to detect criminal activity with her colleague, Dr. Mbazira. Initial results were published in the paper *An Empirical Study on Detecting Deception and Cybercrime Using Artificial Neural Networks* at The International Conference on Compute and Data Analysis (ICCDA) in 2018.

**Knowledge Integration**

During the last 11 years at Marymount, Dr. Murphy has built a reputation of being a “doer” and not a “talker”. She not only possesses the power to generate new ideas and construct new programs from scratch but also has the capability to push those proposals through and make them a reality. In 2008, Dr. Murphy had around 50 undergraduate students majoring in Information Technology in her department. However, she saw the importance of connecting cybersecurity to the IT field and proposed a new specialty called Networking and Cybersecurity for the undergraduate IT program, as well as a new MS in Cybersecurity for the graduate program. These changes provided her department and Marymount University the first-mover advantage in terms of recruitment, visibility, and branding. There are now more than 160 IT undergraduates specializing in cybersecurity (compared to 0 six years ago) and 92 graduates majoring in cybersecurity (tripled from 5 years ago).
The success of the new Cybersecurity doctoral program is a testament to Dr. Murphy’s foresight into the needs of both the discipline and the workforce, and her vision for building rigorous and student-centered programs. In just 2 years, the Doctor of Science in cybersecurity program has enrolled 70 doctoral students, taking both in-class and online coursework. As cybersecurity is an example of a cross-disciplinary field and not simply technology-based, it draws students from fields such as psychology, sociology, healthcare and business. All students are exceptionally complimentary about the focus areas of the program that are tailored to the current and future needs of the cyber field seen within a global context. In the words of a colleague, “Diane wrote a thoroughly researched curriculum for cybersecurity, informed by trends in data analysis, business, and government policy. This kind of cross-disciplinary expertise is exactly what’s lacking from most of the academic literature, which has a tendency to make a single contribution narrowly defined to address one small solvable part of a problem, while sweeping under the rug the vast majority of the difficult issues. As a Ph.D. and chair of her department, Diane does not allow herself the luxury of ignoring issues because they’re difficult. In fact, the papers she wrote on the subject of how to teach cybersecurity embrace the hardest challenges head on--how to prepare students for a changing workforce, how to succeed in a space of vital national security importance, how to maintain a capable STEM workforce in the United States--these are not individual, isolated challenges, but a constellation of interacting issues. Diane’s scholarship, like her service and her teaching, finds voice in integrating these into a comprehensive curriculum. That curriculum and the faculty she’s developed has made Marymount University a leader in this space.”

Dr. Murphy works across disciplines at the university to develop courses and engage students. For undergraduate courses in various fields, Dr. Murphy focuses on digital literacy in terms of critical thinking skills, with a knowledge focus on the user being the master of technology as opposed to technology being the master of her/him. At the master’s level, Dr. Murphy has worked with business faculty to develop dual degrees which allow students to obtain a business degree (MBA or Health Care Management) along with an associated Information Technology or Cybersecurity degree with minimal course overlap to enable students the ability to complete both degrees with less credits than taking them separately. Through her efforts in integrating technology into all subject fields, Dr. Murphy, as one colleague observed, “has increased the visibility and improved the intellectual reputation of Marymount University.”

To ensure that her integration initiatives become reality, Dr. Murphy sought funding and received the following NSF grants: 1) MUMADE (Marymount University Mobile Apps Development for Everyone): Using Mobile Apps to Entice General Education Students into Technology Fields; 2) EDU: Developing a "Protect", "Use" and "Analyze" Approach to Cybersecurity Competitions in the Healthcare Environment (PUNCCH); 3) Preparing Professionals for Cybersecurity in the Government: Scholarships for Service; and 4) SATC: EDU CyberTeach From Cybersecurity Professional to Cybersecurity Professor. Additionally, she has been awarded an NSA Gencyber grant three times to teach cybersecurity to high school students. All the above grants are devoted to using innovative approaches and curriculum to broaden participation in the IT and cybersecurity fields.

A student notes, “Although I’ve been a part of Marymount for a short time, I have watched Dr. Murphy apply regularly for programs and grants that will benefit our diverse cybersecurity student population. She broadened the scholarship base at undergraduate and graduate levels, started a Doctoral program, located cyber challenges for testing practical skills, and modified course content to fill gaps revealed by data analysis. The latter modification was the result of faculty research among Dr. Murphy and two other professors who together developed tools and
process to identify where Marymount's course curriculum could better serve current industry needs. This research also helped me personally. During an employment gap, Dr. Murphy invited me to conduct similar research to identify where Marymount might utilize data in our mission to serve others. The project remains underway at this time; however, I can say that data analysis has identified a tangible way to use data for social good. It is a true honor to be a part of the Marymount community and to contribute to work that will benefit a vulnerable population. A major contributor to these cybersecurity outcomes is the vision and commitment of Dr. Murphy in relationship to individual students from many walks of life.

Service
Dr. Murphy is always looking for ways to help students, importantly in the area of financing their education. She applied for, and was awarded, a grant by NSF for the prestigious CyberCorps Scholarship for Services, which provides a full-ride scholarship that covers the cost of tuition, room and board, textbooks, and school materials for students who commit to work in cybersecurity for the government after completing their education. These students can receive 3 years of support and must work for the government for that same period of time. Over the past six years, Dr. Murphy has been awarded nearly 3 million dollars of Federal Grant support. Her desire to obtain financial aid for her students has also led her to help organize and finance a scholarship for Hispanic technology students in the name of Pablo Enriquez, a Marymount student who tragically died in a car accident, as well as sit on the Clare Booth Luce selection committee, which awards 4-year scholarships to students majoring in science or computer science.

When Dr. Murphy joined Marymount in 2002, she joined a small department, Information Systems, within the School of Business Administration. In 2006, when Dr. Murphy became chair of the department, changes were made that resulted in a major transformation of the fields within the newly named School of Business (which recently became the School of Business and Technology). This transformation created new programs in information technology, data science, and cybersecurity, and Dr. Murphy helped transform the curriculum by merging the Information Systems and Computer Science programs into the BS and MS in Information Technology. Seven years later, in 2013, thanks to Dr. Murphy’s efforts, the MS in Cybersecurity was introduced followed by the DSc in Cybersecurity in 2018. In addition to these new programs, Dr. Murphy has created new course offerings to the specialties in each of the undergraduate and master’s degrees including data science, cybersecurity, digital transformation, and game design and cloud computing.

Dr. Murphy’s leadership at the university has included functioning as Faculty Council President from 2012-2014 and Secretary from 2010-2012, as well as serving as the school’s elected member of the Faculty Council Leadership committee since 2017. Moreover, Dr. Murphy has been an active member of many university committees including those related to budgeting and planning, rank and tenure, academic standards, and curriculum, including the liberal arts core. One colleague noted, “Dr. Murphy is engaged across all aspects of our community. Her grasp of the educational enterprise guides the rest of us in creating the most effective programs and services for our students. Dr. Murphy’s considerable experience outside of academia has broadened her perspective of her discipline and has positively influenced her contributions to her classes, her research, and her service work.”

As department chair, Dr. Murphy also continues to support both faculty and students. She schedules about 80 courses per semester, trying to meet the needs of full-time faculty to achieve a good work-life balance and teach in their specialty area. As well, Dr. Murphy tries to
meet the needs of the student population: a combination of full-time local students, working adults, international students, and remote students looking for on-line offerings.

Impressively, Dr. Murphy has not only been a personal role model for female students majoring in IT and cybersecurity, but she has also worked tirelessly to prepare all of her students for their specific journey and has an open-door policy. One will often see students waiting outside of her office for her advice on classes, personal issues, and seeking a job. One student wrote, “Dr. Murphy sees something in me that no one else has. She has inspired me to grow into my tech career and has motivated me by her real life experiences.”

Although highly visible on campus, Dr. Murphy is extremely active outside the university too. She hosts events for local professional associations such as Blacks in Cybersecurity, and Awesome Women Entrepreneurs often negotiating free passes for students to attend these events, enabling them to interface with professionals in the field. Her expertise is sought by many in the technology field, and she has been invited to serve on various evaluation panels (National Science Foundation, CyberFlordia, and the Virginia Center for Innovative Technology, to name a few). Additionally, Dr. Murphy has also managed cyber-themed residential summer day camps and was able to achieve a 50% participation by women, many of whom are now studying technology and cybersecurity in college. A 2015 New York Times article about her camps was appropriately entitled, NSA Summer Camp: More Hacking than Hiking.
**Personal statement**

I came to academia later in life, in my early fifties, after a successful international career in industry and as an entrepreneur. While these experiences play a major part in what I teach and how I teach, it is my early life that sparks my work – to help students with barriers to success navigate the academic world and transition into high-paying jobs in the workforce, so acting as role models for others.

After a difficult childhood on a small island in the English Channel (Guernsey), I obtained a scholarship though my local authority to go to college at age 17. For this, I thank my grammar school teachers who mentored me through the application process, assisted with monetary aid for my school uniforms, and instilled in me the advantage of learning and pursuing a college degree. I was the first in my extended family to go to college, indeed the only person in my family to go to school past the age of 16. This experience provided me with insights into the additional stresses of the first in family college student.

To go to college, I had to leave the island and go to the “mainland”. It was a culture shock as I had never left the island, and everything was new. Many students at the University of Wales in Cardiff, were from Wales itself and talked with such a strong accent, I found them difficult to understand, including my roommate. Many came from very strict religious backgrounds and went wild with the freedoms of college. Many spent their money freely on clothes and entertainment; I was on a fixed income and had to be selective with how I spent my limited resources. I felt like an outsider and unprepared for the social aspects of college. This experience helps me understand a good portion of the Marymount student population - those from poor families who are on scholarships and those who are working to pay for their education. They may need special attention to ensure their success in reaching their goals.

In my junior year, I decided that in addition to my major in chemistry I would like to study metallurgy. This was, however, in the engineering school where there were no girls and they wouldn’t permit me to enter as the only girl. I negotiated with the Dean that if there were at least two of us, he would allow us to join the program. I sold the value of metallurgy to 3 other female students in my chemistry program and we all joined the engineering school and received that metallurgy credential (one went on to work in that very male dominated field). This experience now relates to the technology and cybersecurity fields, where females and minorities are underrepresented, and has inspired some of my NSF-funded research and my all-inclusive teaching approach in the classroom.

I graduated "summa cum laude" with a major in chemistry and a minor in metallurgy, but with no idea what I was going to do next. I loved the chemistry subject matter, particularly the logical structure of organic chemistry, but did not like lab work. I had worked extensively on research in the library during my degree and decided that a master’s degree in library science would be a good option. I applied at the University of Sheffield, one of the most prominent UK institutions in the library field. They asked me for an interview, which was the first interview I had ever experienced. I did not do well, but was offered the position, mainly because of my high level of performance in the undergraduate program. The Guernsey local authority again offered me a scholarship. My poor performance in that interview process stuck with me and today we have built mock interviews into our curriculum.

During my master’s degree, I was introduced to computers and programming as computerized text searching (the precursor to Google) was just being introduced into library research. I had found my true calling and began to develop my software development skills, albeit on a mainframe. During our master’s degree we visited several organizations where library and
information science skills were being applied outside traditional libraries. One of these was ICI Pharmaceuticals (now Astra Zeneca) a company at the forefront of chemical informatics, using computers to assist in drug design. I had found my home, using all the skills from my educational pathway. I wrote a letter to them expressing my interest and luckily, it arrived shortly after their main programmer had resigned to return to Canada. I acquired my first job! This experience taught me the need to expose students to the new fields that technology is creating, whether it be cybersecurity, artificial intelligence, or mobile computing. This drive to be at the forefront of technology and innovation has resulted in my leading the charge for extensive and continuing changes to Marymount’s IT curriculum.

My educational pathway did not stop there. ICI paid for me to pursue a PhD in Information Science, a new field, and the precursor to computer science. My field of study was chemical informatics in which ICI became a world leader. I consulted for them in pharmaceutical companies all over the world as one of the few female experts in the field. Opportunities for females in male dominated fields continues to be a passion of mine and is so relevant today in the field of cybersecurity. Based on my expertise, I was recruited to come to the US in 1980 to work on a chemical informatics project for the Environmental Protection Agency (EPA).

Although language was not an issue, there were many cultural changes and barriers. I remember vividly being turned down for a credit card because I had no credit history in the US, even though I had used credit cards extensively while based in the UK. That cultural understanding helps me to assist international students with some of the hidden educational and cultural barriers.

I joined Marymount University in 2002 after over 20 years of working in the US, initially as a government contractor and later as an entrepreneur running my own business, the Procurement Automation Institute. We were a software development company specializing in expert systems (the precursor to artificial intelligence), automating the government’s purchasing functions. I enjoyed being an entrepreneur and learned first-hand many management skills that have contributed to my success at the university, both as a department chair and Faculty Council President. I taught as an adjunct while running my company, and this reignited my love for teaching. As my eldest daughter left for college, I decided to sell the business and become a full-time academic.

I have been at Marymount University for 18 years. The transition from CEO to Assistant Professor was not easy, but I managed to use my life experiences to educate students, many with barriers like I encountered, and launch them into successful careers. Teaching and learning in the technology field is my calling and since becoming an academic I have researched and studied on how to be a better teacher, particularly for students who are first in family in college, working students, females and minorities, students with disabilities, and students looking for scholarships.

In recent years, I have focused on research in the cybersecurity field, with published papers in supply chain cybersecurity, detecting phishing techniques, and the area of disinformation. I pioneered the development of a master’s degree and a doctor of science degree in cybersecurity. I have been awarded several NSF and NSA grants to fund research and provide scholarships for high-school students and college students to study cybersecurity.

My past experiences make me who I am as a teacher, a scholar, and someone committed to service. It is my hope that knowing first-hand the barriers that Marymount students face will allow me the opportunity to provide them with strategies but also encouragement that they, too, can overcome obstacles and be incredibly successful learners throughout their lives.
Abbreviated Curriculum Vitae

Academic Affiliation
Professor, Information Management, Marymount University

Education
PhD, Information Science, 1977, University of Sheffield, Sheffield, England (as Diane R Eakin)
MSc, Library and Information Studies, 1970, University of Sheffield, Sheffield, England (as Diane R. Lambourne)
BSc, Chemistry, Summa Cum Laude, 1969, University College, University of Wales, Cardiff, Wales (as Diane R Lambourne)

Courses Taught

<table>
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<tr>
<th>Undergraduate</th>
<th>Masters</th>
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<tr>
<td>DSC201, Data, Data Everywhere (introduction to research for transfer students)</td>
<td>IT510 Requirements Analysis</td>
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<td>IT210 Software Engineering (writing Intensive)</td>
<td>IT560 Cryptography</td>
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<td>IT310 Database Technology</td>
<td>IT575 Information Security Management</td>
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<tr>
<td>IT355 Software Testing and Quality Assurance</td>
<td>IT570 Cybersecurity: Law, Policy, Ethics, and Compliance</td>
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<td>IT433 IT Research (independent study)</td>
<td>IT590 Topics in Information Technology (Global trips to Estonia, Ireland, and UAE)</td>
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<td>IT205 Computer Technology (inquiry course)</td>
<td>IT680 IT Masters Project (research)</td>
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<td>IT223 IT Sophomore Seminar</td>
<td>IT323 IT Junior Seminar</td>
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<tr>
<td>IT423 IT Senior Seminar</td>
<td>IT429 IT Capstone Project (research)</td>
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<tr>
<td>IT310 Software Engineering (writing Intensive)</td>
<td>IT575 Information Security Management</td>
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<tr>
<td>IT323 IT Junior Seminar</td>
<td>IT590 Topics in Information Technology (Global trips to Estonia, Ireland, and UAE)</td>
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<tr>
<td>IT355 Software Testing and Quality Assurance</td>
<td>IT680 IT Masters Project (research)</td>
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<tr>
<td>IT433 IT Research (independent study)</td>
<td>IT727 Managing Cybersecurity Risk</td>
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<td>IT423 IT Senior Seminar</td>
<td>IT727 Managing Cybersecurity Risk</td>
</tr>
<tr>
<td>IT489 IT Capstone Project (research)</td>
<td>IT727 Managing Cybersecurity Risk</td>
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Selected Journal Articles


Selected Presentations

Liu, X. & Murphy, D. (2018, March 23-24), Constructing A Connected Program In IT/IS: A Non-R1 University Case, Proceedings of 21st Annual Conference of the SAIS (Southern Association for Information Systems), Atlanta, GA.


Selected Grants
Total grant value: $2,953,674
Principal Investigator for a grant under the NSF Secure and Trusted Computing (SATC) program to create and implement an innovative program to address the need for more terminally-qualified teachers in the cybersecurity field (2019 – 2022).

Principal Investigator for a grant under the CyberCorps Scholarship for Service (SFS) program which provides scholarships for highly talented students studying cybersecurity (2014 – 2020).

Selected University Service
Leadership
Department Chair (2008-present)
President, Faculty Council (2012 – 2014)
Acting Associate Dean (2010)

Curriculum Development
Led an initiative to develop the framework and curriculum for a doctorate (DSc) in cybersecurity curriculum, including a SACS Substantial Change proposal.
Led the development of the package resulted in the designation of Marymount University as a Center for Academic Excellence in Cyber Defense Education (CAE/CDE) (2012 – 2020)

Selected Professional Service
Ad-hoc advisor for Virginia’s Commonwealth Cyber Initiative (CCI) Blueprint group, led by Virginia Tech.
Leading member of the Northern Virginia Node group, led by George Mason University, (2018-2019).
Member of Engagement Panel for the National Center for Women and Information Technology (NCWIT).

Academic Awards and Honors
Letters of Support (Excerpted)

“At a university like Marymount, which attracts such a diverse student body, it is imperative that students can relate to their faculty, and faculty to their students. Dr. Diane Murphy hurdled many barriers in her own educational journey - she came from a poor family, was a first generation student (the first to go to school past the age of 16), an immigrant, and chose to study in a field dominated by men. Overcoming these obstacles provided the lens with which she approaches teaching, scholarship, and service. Her commitment to underserved populations is unwavering; she works tirelessly in her pursuit of realizing Marymount’s mission: “A student-centered learning community that values diversity and focuses on the education of the whole person.” Dr. Murphy is inspirational to her students and colleagues, as well as to those in the community. I highly recommend Dr. Murphy for the State Council of Higher Education for Virginia Outstanding Faculty Award” - President Irma Becerra, Marymount University

“I’m delighted to enthusiastically support Dr. Murphy’s nomination for this prestigious award. Diane is one of our star faculty members who has demonstrated excellence in all aspects of her job. She has been active in the development of new programs that meet the needs of today’s market, most notably the doctoral program in Cyber Security. She has also received nearly $3 million in external funding to support innovative programs in the technology field.” - Dr. Hesham El-Rewini, Provost and Senior VP, Marymount University

“I had the great pleasure, the great honor, of serving as Dr. Diane Murphy’s dean in what is now the School of Business and Technology from 2006 to 2017. While Diane is certainly an extremely bright and dedicated teacher and scholar, arguably the two characteristics that make her truly extraordinary are her level of empathy and her entrepreneurial spirit. Two examples will clearly illustrate these traits. Pablo Enriquez was a Marymount University BS in IT student and a protégé of Dr. Murphy...Pablo, the son of immigrant parents, was married and the father of an infant daughter. Tragically, Pablo died in July 2016 as an innocent passenger in an automobile accident. At the time of Pablo’s death, Diane’s empathetic caregiver mode went into full action (i.e., helping the family during this time of mourning; she was a wonderfully eloquent speaker at Pablo’s funeral service). But one of the things that makes Diane truly special is her ability to think empathetically in a longer term, strategic sense. Empathetic and strategic? First, she successfully lobbied me, as her dean, to have the University approve Pablo’s posthumous graduation (Pablo was just short of finishing all of the major requirements). The ceremony at which Diane presented Pablo’s family with his diploma was an emotional, meaningful, and powerful experience for all. Second, Diane led the successful initiative to create a Pablo Enriquez Memorial Scholarship. This tribute to the legacy of Pablo is now fully funded (thanks in part to a donation from Diane) and annually a scholarship is awarded to a deserving Hispanic student studying Information Technology or Cybersecurity. An example of Dr. Diane Murphy’s entrepreneurial spirit is her work with the National Security Agency (NSA) and the National Science Foundation (NSF) with respect to GenCyber Camps. GenCyber Camps are summer programs for high school students to introduce them to the field of cybersecurity. Grants secured by Diane enabled students to come to Marymount University for a residential, free of charge, week (or two weeks) to be experientially introduced to the field of cybersecurity. A 2015 New York Times article about Diane’s camps...was most appropriately entitled, “N.S.A. Summer Camp: More Hacking Than Hiking.” It should be noted that whether it’s in her summer camps or in her Marymount degree programs, Diane has worked diligently to secure scholarships to increase the number of women and other minorities (traditionally underserved populations) studying Information Technology and Cybersecurity. It would be easy to go on for pages singing the praises of Diane the teacher, scholar, advisor, and servant to her University and profession. However, I hope these examples enable you to get a true sense of Diane, the person - who has a legacy of inspiring and mentoring literally thousands of young people. Thanks Diane!” - Dr.
James Ryerson, former Dean, School of Business and Technology, Marymount University

“Diane envisions the world of the future with both its human talent and technology needs; and builds curriculum, student activities, and research projects around these emerging needs. This has been one of the keys to her success in building programs, seeking and receiving external grants, and the successes of her students. Dr. Murphy has been awarded just shy of 3 million dollars of federal grant support ($2,953,674) over the past 6 years. These funds support cybersecurity initiatives at the university: both applied research and student support. In building grants, Dr. Murphy is particularly passionate about projects that support her students financially and provide opportunities to involve her students in research and career development activities. Her most recent NSF Secure and Trustworthy Cyberspace grant focuses on providing mentored teaching experiences to Doctor of Science in Cybersecurity students to prepare them to serve in the role of preparing the next generation of a cybersecurity workforce. Diane has a consistent vision for the needs of the cybersecurity workforce that she weaves through all her actions. She sees the role of cybersecurity education and research as ‘Preparing cybersecurity professionals that have the skills to solve today’s problems but also the flexibility of thinking and creativity to solve future problems that are not even imagined today.’” -Dr. Rita Wong, Associate Provost, Research and Graduate Education, Marymount University

“I have worked with Dr. Murphy over the past five years at Marymount University. In this time, she has worked diligently to grow the Information Technology program significantly. Diane is a leader focused on continuous improvement. In 2018-2019, I had the opportunity to work with Diane to secure the University’s approval for numerous new graduate programs and course revisions in information technology and cybersecurity. Diane is an advocate for the program, but more importantly, an advocate for the School of Business & Technology (SBT) and Marymount University. She monitors the evolving business needs of the community and adapts the curriculum to ensure relevance. Diane also is relationship builder. She maintains active, professional relationships with her program’s alumni and with business leaders in the community. Both of these approaches have been key in building the size and strength of the program. As an Instructor in health care management, I have benefited from Diane’s insights. She is a generous colleague, always available to lend insight on curriculum development and program growth. Diane’s invitation to an artificial intelligence conference led to an inspiring discussion of partnership between tech leaders and managers—a conversation that is important to her program and mine. In 2019, Diane and I served on the SBT Strategic Planning Committee. Diane’s contribution consistently focused on taking practical and positive steps in advancing the quality of the education we deliver and expanding SBT partnerships. She invites alternate viewpoints and has a keen vision for the future that is inclusive and compelling. With Diane’s leadership, the School of Business & Technology, and our students, will continue to thrive. -Dr. Cynda Tipple, Professor, Health Care Management and Legal Studies, Marymount University

“I am sending this small message to you because I am very thankful for being your student. Today, I am pleased to announce that I have become a well-known IT Engineer and Project Manager at the Ministry of Health in Saudi Arabia… you have taught me many things and always encouraged me… to learn and seek…the information. All I hear today is data science, big data, data mining, cybersecurity…I can choose who and how I want to be among them. Thank you for your wonderful program.” —Abrar Alsuwaina, former graduate student

“Over the last 8 years I’ve had the privilege of being Dr. Diane Murphy’s student, coworker, mentee, and more recently, close friend... At a young age I was able to outsmart my parent’s
and teachers’ desires to limit my computer usage by guessing passwords and using “open doors” to access the system. Through guidance at home and school, I quickly learned that I could make a career out of this. As...I began applying to various technology-driven universities throughout the country I stumbled upon Marymount. Marymount was one of the only schools in the DC metropolitan area that had a BS in Information Technology with a concentration in Computer Security (which later became Cybersecurity). I was sold! Fast forward to my first semester at Marymount. My advisor who knew that I was passionate about doing computer security in the federal government introduced me to Dr. Murphy. I sat down in Dr. Murphy’s office and explained my background in computers and a little about myself. This was my first interaction with Dr. Murphy outside of new student orientation. While in her office, she called Career Services and asked if there were any federal agencies looking for an IT intern. Despite my...inexperience, Dr. Murphy took a leap of faith and helped me secure an interview with a U.S Ambassador who was looking for an intern. I practiced my ‘elevator pitch’ that Dr. Murphy taught me and was able to secure a paid internship with the U.S. Department of State. Over the next several months and what would become years, Dr. Murphy helped me strengthen my soft skills through mentorship and bringing me to networking events, seminars, and conferences. At the completion of my sophomore year, I secured a federal internship with the U.S Department of Justice where I discovered my passion for Computer Forensics. Although not in the Computer Security concentration program requirements, Dr. Murphy allowed me to substitute a course so that I would excel in my new internship. Dr. Murphy’s flexibility and ability to think outside the box is the direct reason why I’ve had the opportunity of serving as an expert witness in federal court and have represented the country on an international scale. -Stephen Boyce, graduate student

“I met Diane in the Career, Tech, and Adult Education citizen advisory committee in 2006. From 2006 through 2011, Diane and I volunteered side by side to define, along with the rest of the committee, the (at the time) new Governor's Career and Technical Academy (GCTA) in Arlington Public Schools. One of the visions... was to see students who might not have thought of themselves as ‘college material’ experience the relevance, rigor and relationships of a program that would expose them to college material, and prepare them to be successful. Diane championed the dual enrollment recommendations the committee made to the Advisory Council on Instruction and the Arlington School Board over the course of multiple years. Now students in the GCTA dual enroll in challenging college-level work that gives them both high school and transferable college credit. This approach is crucial for many reasons Diane outlined in reports as chair of that advisory committee: By giving students an opportunity to succeed at college, especially English language learners and students whose parent(s) did not get a college degree, they are forced to consider for themselves if they might become the first person in their family to go to college. This is not enough, though, because tuition and remedial coursework delays prevent degree attainment. That is why the dual enrollment aspect that Diane advocated is so important--it is equivalent to tuition reimbursement for coursework completed in a public school. Perhaps most importantly, Career and Technical Education (CTE) has long been looked down on by the more "academic" programs in K12 education, which is a counterproductive headwind for responsible workforce development. When Diane learned that these CTE students were not getting the same GPA incentives for their dual enrollment coursework as, say, AP and International Baccalaureate GPA incentives, she made the recommendation to fix that unfair bias, and she got it fixed. This is an example of how Diane sees how the whole system needs attention...Diane advocated for what was right.” -John Kaufhold, Founder of Deep Learning Analytics, Arlington
Additional Documentation

Anonymous Teaching Evaluations by Students (5-point scale)

Dr. Murphy has a course release each semester as Department Chair but continues to teach a full load to meet the needs of the department. She has taught 10 different subjects (22 sections) across various levels: sophomore (3), junior (2), senior (2), masters (2) and doctoral (1). The averages shown in the table represent student responses to the overall question, "How would you rate this course as a learning experience?" Whether she's teaching undergraduates or graduate students, her average evaluation scores are, with rare exception, leaps and bounds above Marymount averages.

<table>
<thead>
<tr>
<th></th>
<th>Averages, Dr. Murphy</th>
<th>Averages, Marymount Undergraduate Courses</th>
<th>Averages, Dr. Murphy *only 1 course</th>
<th>Averages, Marymount Graduate Course</th>
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<td>4.19</td>
<td>4.43</td>
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</table>

Excerpts directly from course evaluations, selected courses:

*IT 210, Software Engineering:* "The assignments were challenging and really made me think and learn more. The class activities were really helpful in my learning process."

*IT 223, Sophomore IT Seminar:* "The professor engaged with the students and had the students engaging with one another."

*IT 355, Software Testing, Documentation, and Quality Assurance:* "I learned a lot about software design and how important each step is to maintain a successful product. This course was very writing intensive and I felt like my writing actually improved after taking this course, I also enjoyed how...the writing dealt with real world situations that many of us deal with on a regular basis."

*IT 423, Senior IT Seminar:* "Love Dr. Murphy, she is the best. This has been one of the best seminars I have taken so far. It makes you think a lot about the future which is very helpful. She gave great feedback on resumes, and tips on how to improve your chances in getting a good job."

*IT 575, Information Security Management:* "I loved that our classroom meetings were PowerPoint presentations WITH activities. Rather than just speaking to us about concepts, we were encouraged to speak up and problem solve ourselves...It was very useful for my career aspirations. Very knowledge based and real world scenarios used."

*IT 590, Topics in Information Technology:* "I really enjoyed getting to know my fellow classmates and chatting/doing activities with my professors. Usually, students remain in their pre-
established social groups and do not interact with each other...It was great to be able to discuss the material from the...presentations in a more relaxed social situation outside of class.”

Excerpts from student letters:
“It was Winter of 2014 when I transferred to Marymount University to study cybersecurity. My first meeting was with Dr Diane Murphy on the old Marymount Ballston Center building. After a few minutes, I had my courses all straightened away. A few months later, I wanted to organize a cybersecurity event at school so I asked her for support. She supported my idea without hesitation, booked the theatre space, and walked me through the process. This event drew 120 attendees from Marymount and surrounding schools, had 9 professionals participate on the panel, a drone was raffled, and this set the standard for cyber events going forward. This speaks to her selfless leadership and it was one of the best experiences I have ever had.” - Babur Kohy, graduate student

“I have known Dr. Murphy since 2013, as I began my search for an institution to pursue my career endeavors in Cybersecurity. As an incoming graduate student, I would have never known that I would not only find a great institution but an incredibly dedicated mentor who I call 'my other mother', being an extension of our family. Soon after meeting Dr. Murphy, I immediately noticed that she was no ordinary faculty member. She is extremely intelligent, a superb listener, committed, family oriented, and hard-working. Dr. Murphy took the time to get to know me on an individual level. She also included my family- recognizing them in every decision critical to my success. As my academic advisor, she knew just when to step in and give life changing advice, never losing sight of my goals, always with a bright smile, enthusiasm and positive energy making our world a better place! As an instructor, my best experiences at Marymount were with her, appreciating how she has a gift for taking intricate ideas and making them meaningful to all her students. As an African American minority, Dr. Murphy’s positive influence as a professional with integrity, high ethical standards, and solid commitment to inclusion and diversity, has been instrumental to my achievements. Dr. Murphy made the time to assist me with finding research topics, preparing volunteer events, developing blog content for students, working in the forensics lab, and personal matters such as the hardships of life. There is not one part of my life that Dr. Murphy has not been involved in since our very first meeting in 2013. Dr. Murphy exemplifies the greatest kind of mentor, instructor, and leader (by example), exhibiting a rare humbleness that is beyond worthy of the highest accolades. Dr. Murphy has allowed me to reach my highest potential by being a phenomenal human being. Dr. Murphy has had a tremendous impact on my life and I will forever be grateful.” - Demetria Peart, former graduate student

Remarkable. Astounding. Persevering. Dr. Murphy is all those things and more, she is no short of amazing. Marymount University is lucky to have her as a Professor. Classifying Dr. Murphy as a Professor is an understatement, she is a mentor and an impactful leader. A person who puts her students, their success, and their futures first by taking the time and patience to deal with every prospective, past, and present student. There have been plenty of occasions where she has taken time out of her busy schedule to talk to me and other students...and that speaks volumes about her character. I had the pleasure of learning a great deal...from Dr. Murphy from Fall 2010 to Spring 2015. Dr. Murphy has taught me so much and perfected my weaknesses so profoundly that my current employer personally thanked her...Dr. Murphy has inspired me to inspire others to give back to Marymount and the general community...she is the reason why students continue their studies at Marymount for a Masters or Doctorate in Information Technology/Cybersecurity. - Raven Moore, former undergraduate student
Excerpts relating to scholarship, knowledge integration, and service:
“Diane is an active and dedicated researcher in the field. We have collaborated on many presentations and papers during the past eleven years. She has been in part responsible for my success in scholarship. Our collaborations mainly focus on the Information Systems and Cybersecurity research toward educators, curricular innovation, and broadening participation of underrepresented groups (especially women) in the Science, Technology, Engineering, and Mathematics (STEM) fields. We have presented our papers in more than twenty different conferences in the past decade including the IEEE Intelligence and Security Informatics conference, Women in Cybersecurity, Special Interest Group on Computer Science Education, Information Systems Educators Conference, and the Annual Consortium for Computing Sciences in Colleges Eastern Regional Conference. Our papers have been published in various refereed conference proceedings and journals. One of our papers entitled, ‘The Document Explosion in the World of Big Data – Curriculum Consideration’ won the Best Paper Award at the 2013 Information Systems Educators Conference organized by the Association of Information Technology Professionals. Our papers and presentations have been indexed in the ACM Digital Library, IEEE Digital Library, and AIS eLibrary, to name a few, which all have high visibility and impact in the technology fields.” –Dr. Michelle Liu, Associate Professor, Dept. of Information Technology, Data Science, and Cybersecurity, Marymount University

“Since cybersecurity by its very nature is multi-disciplinary, [Dr. Murphy] works with other areas of the university to develop courses and engage students. For example, quantum computing is an area that encompasses but only physics but cyber encryption. She is exploring possibilities to jointly create coursework that will interest learners from each area. She frequently collaborates with colleagues from criminology and forensics for both research purposes and course creation/development. Recently she worked with a company called CGI to have students develop training material in the area of Blockchain. She is always coming up with new research topics that we as a team explore and write about; several years ago, we researched and published on teenage hackers. She recently published a paper on market trends in technology fields. She guided me with research on data privacy and biometrics. She is always available to help her colleagues, students, and the community-at-large. What I most respect about Dr. Murphy is her leadership. She is inclusive in her ideas and always willing to ‘share the stage’ with colleagues and students. It is this collaborative spirit that creates a great place to work and learn for all faculty and students.” –Dr. Susan Conrad, Assistant Professor, IT, Data Science, and Cybersecurity, Marymount University

“Dr. Murphy is a model academic: she is available and approachable to anyone seeking her advice, whether it is a graduate student seeking advice on an assignment, a new faculty member in need of guidance on teaching a first course, or a committee member looking for her shrewd input in the strategic planning of a new program. Dr. Murphy’s spirit of collegiality permeates all of her work. She consistently seeks opportunities for students, faculty, and staff to develop their potential and never hesitates to include staff colleagues in her work.” –Dr. Joseph Provenzano, Director, Faculty Development, Teaching, Instructional Design, Marymount University

“For the last 9 months, I have been pleased to work with Dr. Diane Murphy on the Commonwealth Cyber Initiative. She has been an outstanding leader in this initiative, helping to bring many stakeholders together and converge on a common understanding of the state of cyber education and research in the region. She has served as a leader in this initiative, providing guidance on the strategic plan for cyber workforce development and cyber research that will help bolster Virginia as a global leader in the cyber economy. Dr. Murphy is a highly collaborative ally, with keen insight, tremendous depth of educational experience, and is well
known and respected in the academic and corporate community enabling her to easily rally support for new initiatives. She builds bridges between the corporate and local economic community, and academic programs. This skill has well served the students of the Commonwealth as their educational experience has been significantly enhanced from the impact of internships, mentoring, and other experiential learning opportunities that have come from her efforts. She has been a champion for students and the need for real engagement with the corporate community to ensure that they are ready for work and possess skills beyond technical. Her dedication to this cause, her leadership, and collegial ability to develop relationships with stakeholders throughout the community have created countless opportunities for her students.” —Dr. Liza Wilson Durant, Professor and Associate Dean, Strategic Initiatives and Community Engagement, Volgenau School of Engineering, George Mason University

“Dr. Diane Murphy has been a great supporter and advocate for The Women’s Society of Cyberjutsu, and the Cyberjutsu Girls Academy, a 501(c)3 non-profit organization that supports the advancement of women in the Cybersecurity field, and provides STEAM Workshops and Cyber Competitions to young ladies in middle and high school who would like to pursue a cyber career. Dr. Murphy has coordinated and provided the use of classrooms and the Cyber Lab at Marymount University for classes and workshops to facilitate a successful learning experience. Most recently, she supported a two-week GenCyber camp for high school students in partnership with the National Capital Region of InfraGard. This truly is a reflection of her service to community, her desire to create educational opportunities, and her passion for education in the field of technology.” —Kandis Weiler, Cyberjutsu Girls Academy

“I have known Dr. Diane Murphy since 2011 when we both served on a cybersecurity panel for the Federal Laboratory Consortium. I work for Arlington Economic Development and my role is to attract companies into Arlington and to work with existing companies to ensure that they are pleased with Arlington and will continue to stay. Given that Marymount University is based in Arlington and has excellent information management and computer science programs, area companies are very interested in working with Marymount’s faculty and recruiting its students. Every time a company expresses interest in recruiting from higher education institutions, I forward the information to area universities. Dr. Murphy consistently follows up immediately with the request, and personally contacts the company, whether it is with the Chief Executive Officer or Human Resource Director. She expresses interest in the company and its products and services, and tries to match her students with the company’s opportunities. She is very supportive of her students, and makes extra effort in identifying job and internship opportunities for them. Currently, some of her students are conducting a research project for Arlington Economic Development on Arlington’s cybersecurity ecosystem. Dr. Murphy is very involved in her students’ projects and provides guidance to them... As the Chair of Marymount’s Information Management Department, she not only teaches her students, she prepares them for graduation.” Sindy Yeh, Senior Business Ambassador, Arlington Economic Development

Dean’s Evaluation, Summative Scores (5-point scale)

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<th>Year</th>
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