



**S**cience  
**T**echnology  
**E**ngineering  
**A**rts  
**M**athematics



30th Annual  
STEAM Day  
November 21, 2023  
[francis.edu/STEAM](https://francis.edu/STEAM)





November 21, 2023

Dear STEAM Day Guests:

On behalf of all the faculty and students at Saint Francis University, it is our pleasure to welcome you to campus for the 30<sup>th</sup> Annual STEAM Day. Our own students first talked about this program in 1994 when they wanted to find a way to share their interests and enthusiasm for science and related fields. As a result, STEAM Day will add to your knowledge while introducing you to many interesting applications of science, technology, engineering, arts, and mathematics.

Thank you to the many Saint Francis faculty and students of the University who have supported this vision through the years. Thank you to the high school teachers who have been involved through the years in organizing high school students to attend. Finally, thank you our high school student guests for participating in STEAM Day 2023.

We are hopeful that this 30<sup>th</sup> STEAM Day will be the best ever. Students, we hope you consider attending Saint Francis University after you graduate. We have quality major programs, excellent faculty, new and renovated facilities, the newest equipment, transformational student experiences, successful students, recognized outcomes, and accomplished graduates. If you are interested, you can start your journey to “Become that Someone” by completing an application for admission while on campus today.

We hope that you enjoy your day on our picturesque campus. If you have questions, please ask any of our students or faculty. Know that you are always welcome to visit Saint Francis University in the future. Have a great day and enjoy learning!

Sincerely,

Peter R. Skoner, Ed.D., P.E.  
Dean of the School of STEAM  
pskoner@francis.edu



## **STEAM Day 2023 Schedule**

### **Tuesday, November 21, 2023**

**8:00 am**                      **School Registration & Activity Fair– Maurice Stokes Athletics Center & DeGol Arena**

**9:00 am**                      **Welcome, Remarks, and Schedule for the Day – DeGol Arena**  
Dr. Peter Skoner, Dean of the School of STEAM

**9:30 am – 10:20 am**    **Concurrent Presentations I**

**KEYNOTE #1** **Wow, this is Neat! AI, Big Data, and Great Career Paths**

Other presentations as listed on the [STEAM Day](#) website under Session Descriptions.

**10:30 am - 11:20 am**    **Concurrent Presentations II**

**KEYNOTE #2** **Industrial Science: Paint and Coatings, Advancing Digitization, and Career Opportunities**

Other presentations as listed on the [STEAM Day](#) website under Session Descriptions.  
Lunch at Torvian Dining Hall or Frankies Food Court.

**11:30 am - 12:20 am**    **Concurrent Presentations III**

**KEYNOTE #3** **A Day in the Life: STEAM Student Panel**

Other presentations as listed on the [STEAM Day](#) website under Session Descriptions.  
Lunch at Torvian Dining Hall or Frankies Food Court.

**12:30 pm - 1:20 pm**    **Concurrent Presentations IV**

**KEYNOTE #4** **Experience a World of Arts at SFU**

Other presentations as listed on the [STEAM Day](#) website under Session Descriptions.  
Lunch at Torvian Dining Hall or Frankies Food Court

**1:30 pm**                      **Adjournment**

**Thank you for attending STEAM Day 2023!**

**Saint Francis University**  
**STEAM Day 2023 Presentations**

Tuesday, November 21, 2023

Sessions begin at 9:30 am, 10:30 am, 11:30 am, and 12:30pm

| STEAM Day Keynote Presentations – JFK Auditorium                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| 9:30                                                                                                                                                                                                                                                                                                                                                                                                       | 10:30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 11:30                                                                                                                                                                                                                                                                                                                                                                                                         | 12:30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>KEYNOTE #1</b><br>Wow, this is Neat!<br>AI, Big Data, and<br>Great Career Paths                                                                                                                                                                                                                                                                                                                         | <b>KEYNOTE #2</b><br>Industrial Science: Paint<br>and Coatings,<br>Advancing Digitization,<br>and Career<br>Opportunities                                                                                                                                                                                                                                                                                                                                                                                    | <b>KEYNOTE #3</b><br>Day in the Life:<br>STEAM Student Panel                                                                                                                                                                                                                                                                                                                                                  | <b>KEYNOTE #4</b><br>Experience A World of<br>Arts at SFU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <i>Mr. John Skarupa, IT<br/> Manager at UPMC,<br/> Pittsburgh, PA; Saint<br/> Francis University<br/> alumnus 2012</i>                                                                                                                                                                                                                                                                                     | <i>Dr. Heather Eckenrode-<br/> Stiffler, Global Technical<br/> Leader - Dow Chemical<br/> Company</i>                                                                                                                                                                                                                                                                                                                                                                                                        | <i>Moderator Mr. Isaac<br/> Johnsen, Biology &amp;<br/> Political Science Major<br/> (Class of 2024); Panelists:<br/> Ms. Adrianna Boldizar,<br/> History &amp; Secondary<br/> Education Major (2025);<br/> Mr. Stephen McGinnis,<br/> General Engineering<br/> (2026); Ms. Abrielle<br/> Brown,<br/> Biology/Premedicine<br/> (2027)</i>                                                                     | <i>Ms. Jessica Campbell, Mr.<br/> Jim Donovan, Dr. Lance<br/> Mekeel, and Mr. Jonathan<br/> Neff; Center for Fine Arts,<br/> Saint Francis University</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| By now we have all<br>heard about the power<br>and misuses of Chat<br>GPT and similar<br>conversational artificial<br>intelligence<br>applications. Hear<br>about the current<br>usage of these tools,<br>and problems that can<br>result. Also hear about<br>the career pathways<br>with companies using<br>information safely,<br>securely, and ethically<br>to improve their<br>operations and service. | Watching paint dry...is that<br>really something industrial<br>scientists do? It is! And it is<br>way more exciting than it<br>sounds. From a local high<br>school to a Fortune 100<br>company, hear about the<br>career path of a leader in<br>the materials science<br>industry who studies the<br>durability of coatings such<br>as paint using automation<br>and digital tools. Changing<br>trends in skills needed for<br>career opportunities in<br>industry in STEM fields will<br>also be discussed. | What is it like to be a<br>college student in a<br>STEAM major? What<br>are classes like, the<br>workload, the schedule,<br>the challenges? What<br>clubs and activities are<br>available? How do I<br>prepare for a job, med<br>school, or graduate<br>school? What do you<br>do for fun? Hear<br>answers to<br>these questions and<br>more from current<br>STEAM students and<br>ask your own<br>questions. | Hope to keep your passion<br>for the arts alive in college?<br>Whether you choose to<br>study business, health,<br>humanities, or STEM, Saint<br>Francis is committed to<br>providing you with<br>enlivening opportunities in<br>the Arts. In fact, soon to<br>open is the state-of-the-art<br>\$7M Connors Family Fine<br>Arts Center featuring the<br>“Resinski Black Box<br>Theater.” Participating in<br>the arts helps you by<br>developing confidence in<br>public settings, providing<br>stress relief, allowing<br>balance during your<br>academic pursuits,<br>increasing self-esteem, and<br>just having fun. |



# Saint Francis University

## STEAM Day 2023 Presentations

Tuesday, November 21, 2023

Sessions begin at 9:30am, 10:30am, 11:30am, and 12:30pm

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| <b>1. A Hands-on Primer in Therapeutic Gardening</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Hoophouse</b>          | <b>9:30a &amp; 12:30p</b>         |
| <i>Dr. Tim Bintrim, Professor of English, and Coordinator of Sustainability Minor; Students, SFU</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                           |                                   |
| Research shows that when the elderly have access to gardens, biophilia elevates their mood, reduces the need for medication, and encourages wellness, flexibility, and fine motor skills. For the past three years, students at SFU have been using our high-hoop greenhouse to stock a therapeutic garden at Maple Heights, a skilled nursing facility closeby that is our community partner. This session, held in the SFU Hoophouse near Torvian Dining Hall, will offer a hands-on introduction to sensory plants, vertical gardening, and propagation techniques that we use to make the wheelchair accessible garden bloom. Participants will propagate ice plant and tradescantia, taste edible flowers, and learn how therapeutic gardening intersects with careers in occupational or physical therapy, gerontology, psychology, nursing and physician assistant science, as well as botany, ecology, and teaching. |                           |                                   |
| <b>2. Army ROTC Opportunities: Leadership, Service, and Scholarships</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Scotus 210</b>         | <b>9:30a &amp; 10:30a</b>         |
| <i>Mr. Chris Chavira, Recruiting Operations Officer, U.S. Army ROTC</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                           |                                   |
| Consider the Reserve Officers' Training Corps (ROTC) as you are looking for options in your college career. Full scholarships are possible for you to lead and serve your country, all without sacrificing your college experience in almost any major. And a career is waiting for you when you graduate. Attend this session to learn more about the opportunities and how to apply.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                           |                                   |
| <b>3. Brain Illusions</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Scotus 102</b>         | <b>9:30a &amp; 10:30a</b>         |
| <i>Dr. Shlomit Flaisher-Grinberg, Associate Professor of Psychology, SFU</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                           |                                   |
| In this fun and interactive session, participants will explore the different ways our nervous system plays tricks on us, focusing on the ways that we see, hear, taste, smell, and feel the world that we live in.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |                                   |
| <b>4. Careers focused on protecting and restoring water resources</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Science Center 015</b> | <b>9:30a, 10:30a &amp; 12:30p</b> |
| <i>Dr. Travis Tasker, Assistant Professor of Environmental Engineering, SFU</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |                                   |
| Water is life. Without it, life on earth would not exist as we know it. According to the 2022 United Nations Sustainable Development Goals report, the world's water related ecosystems are being degraded at an alarming rate. By 2030, over 1.6 billion people in the world will lack access to clean drinking water and over 2.8 billion people will not have access to facilities that safely handle their wastewater. This is such a big problem that the National Academy of Engineering has also identified access to clean drinking water as one of their 14 game changing goals for improving life on earth in the 21st century. In this session students will learn how environmental scientists and engineers can use math, science, and technology to protect and restore water resources.                                                                                                                       |                           |                                   |
| <b>5. Cryptography: Making and Breaking Secret Codes</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Science Center 028</b> | <b>9:30a, 10:30a &amp; 11:30a</b> |
| <i>Dr. Kevin Slonka, Assistant Professor of Computer Science/Cyber Security, SFU</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                           |                                   |
| What if you could send a message that everybody could see but only a few could read? Find out how to encrypt and decrypt basic messages in this session. Coded messages are used by spies, diplomats, and the intelligence community, but also used on almost all Internet transactions. Make and break some simple codes in this session and learn some of the theory behind codes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                           |                                   |
| <b>6. CSI Loretto: Help Forensic Chemists Solve a Crime</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Science Center 225</b> | <b>9:30a, 10:30a &amp; 11:30a</b> |
| <i>Dr. Ashley Smith-Diemler, Assistant Professor of Chemistry, and student, Sarah Evans, SFU</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                           |                                   |
| Work together with the CSI Loretto team to solve a crime. You will review the evidence collected from the crime scene to identify the suspect who committed the crime. This analysis will require creativity, attention to detail, and collaboration with your peers and the CSI team. Bring your curiosity to compare fiber, hair, and blood (simulated) evidence to help us catch the perpetrator!                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                           |                                   |
| <b>7. Disastrous Floods and the Demise of Steel in Johnstown</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Schwab 313</b>         | <b>9:30a &amp; 10:30a</b>         |
| <i>Dr. Patrick Farabaugh, Professor of Communications, SFU</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |                                   |
| Learn more about the history of the steel and coal industry in the Johnstown region, as well as the causes and the science behind the three major floods that have hit this city. In this session, author Pat Farabaugh will talk about his latest book - "Disastrous Floods and the Demise of Steel in Johnstown" - and the process of writing and publishing a book.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                           |                                   |

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| <b>8. Engineering the Perfect Wave</b> | <b>Science Center 019</b> | <b>9:30a &amp; 12:30p</b> |
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*Dr. Joel Bandstra, Professor of Environmental Engineering, SFU*

The very existence of civilization depends on our ability to engineer flowing water. Being able to deliver water to people when they need it and protect people from excessive water during disasters are twin cornerstones of our quality of life. In this hands-on lesson, you will build a wave-shaping device and see how it works in SFU's own hydraulic flume. You will see how engineers manipulate flowing water, waves, and hydraulic jumps to protect infrastructure, help migrating fish, and restore riverine ecosystems. This session will help you determine if engineering is a possible career for you.

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| <b>9. Exploring Animal Ecology</b> | <b>Science Center 133</b> | <b>11:30a</b> |
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*Dr. Lane Loya, Professor of Biology; Biology 203 Students, SFU*

Join Dr. Loya and students from his Ecology course for a hands-on, interactive session about the field of animal ecology.

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| <b>10. Extraterrestrial Intelligent Life: Is Their Existence Consistent with Religious Beliefs?</b> | <b>DiSepio 211</b> | <b>11:30a &amp; 12:30p</b> |
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*Dr. Tyler McNabb, Associate Professor of Philosophy, SFU*

Would the existence of extraterrestrial intelligent life (ETI) conflict in any way with religious belief? With respect to particularly Christian belief, we identify various areas of potential conflict. If there be no conflict in any of these areas—and we argue ultimately there is not—we are confident in declaring that there is no conflict, period.

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| <b>11. Fireworks, Change, and Explosions. Better Living through Chemistry</b> | <b>Science Center 230</b> | <b>9:30a &amp; 10:30a</b> |
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*Dr. Pedro Muñio, Professor of Chemistry and Master of Explosions, SFU*

See that chemistry is behind most technologies we currently use, from our space program to our kitchens and from construction to demolition. We will show you that a good chemist never misses an opportunity to set something on fire or to make it explode (safely, of course).

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| <b>12. I Like Cybersecurity, but What Can I Do in the Field?</b> | <b>Science Center 024</b> | <b>11:30a &amp; 12:30p</b> |
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*Mr. Michael Zambotti, Assistant Professor of Computer Science/Cyber Security, SFU*

"Cybersecurity" is a very broad field. Do you like solving problems? Might you have the mindset and curiosity to solve cybercrimes? You will develop analytical skills to solve these crimes and use tools like Advanced Google Searches, Social Media Investigation, the Dark Web, and image searches to search for criminals. Attend this session to hear about specific career paths based on your interests and passions.

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| <b>13. Insights and Advice from Premedicine Students</b> | <b>DiSepio 213</b> | <b>9:30a &amp; 10:30a</b> |
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*Dr. Sue Reimer, Premedicine Advisor and Professor of Biology, and Dr. Kate Criswell, Assistant Professor of Biology, SFU*

Interested in medicine, optometry, dentistry, veterinary medicine, or pharmacy? Join us as we have a panel discussion featuring Saint Francis University Premedicine students. Learn how they chose a school, what courses they are taking, and how they are planning their path to medical school.

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| <b>14. Interested in Flying? Study to be a pilot!</b> | <b>Scotus 211</b> | <b>11:30a &amp; 12:30p</b> |
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*Mr. Will Guzik and Mr. Cade Young, Certified Flight Instructors for Nulton Aviation, Johnstown PA; and SFU alumni*

Dive into what a career and outlook as a pilot looks like right now and in the future. A shortage exists for commercial pilots and is expected to only grow in the coming years. With a new aviation program, you gain flight experience and a pilot license as you complete your degree in business, criminal justice, engineering, or other majors. Hear about the many opportunities available to you as a pilot and find a possible career direction.

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| <b>15. Join the Red Flash Family: An Introduction to SFU Admissions and Financial Aid</b> | <b>DiSepio 214</b> | <b>9:30a</b> |
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*Dr. Bobby Anderson, Director of Admissions, SFU*

Saint Francis University is one of the premier institutions in the Northeast touting 1) nationally recognized academic programs, 2) amazing opportunities in internships, study abroad, research, and more, 3) NCAA Division I athletics, and 4) exceptional outcomes for graduates including very impressive graduate school and career success! Getting into SFU is easier than you think and the financial aid is very generous...let us show you how you can "Become that Someone" you always believed you could be...at Saint Francis University!

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| <b>16. Luke Trotz Esports Arena Open Play</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Luke Trotz Esports Arena (JFK)</b> | <b>10:30a, 11:30a &amp; 12:30p</b> |
| <i>Mr. Ethan Wingard, Esports Coordinator, SFU</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                       |                                    |
| Students can visit the state-of-the-art Luke Trotz Esports Arena and play a variety of games including Super Smash Bros. Ultimate, Rocket League, Valorant, and more! In addition, staff and students will be present and available to discuss the Collegiate Esports experience (including possible scholarships) and steps to join the team.                                                                                                                                                                                    |                                       |                                    |
| <b>17. Make College Count: Experiences that Set You Apart from the Crowd</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>DiSepio 214</b>                    | <b>10:30a</b>                      |
| <i>Dr. Bobby Anderson, Director of Admissions, SFU</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                       |                                    |
| All students choose a college major to lead to their first job. What you learn will in part determine which job you get, the impact you make, and how much you can earn. Learning includes both the content in your courses and the portfolio of experiences you acquire during your four years of college. In selecting a college, look for opportunities that transform you from just another graduate to someone that employers and communities are seeking.                                                                   |                                       |                                    |
| <b>18. Making History: The Breakup Microgame</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Scotus 211</b>                     | <b>9:30a &amp; 10:30a</b>          |
| <i>Dr. Arthur Remillard, Associate Director of the Honors Program; Dr. Denise Damico, Professor of History, SFU</i>                                                                                                                                                                                                                                                                                                                                                                                                               |                                       |                                    |
| This game is intended to introduce students to some of the issues involved in the use of primary sources to construct historical narratives. The scenario under consideration centers on two college students who break up. Players will receive a series of sources that will give clues on the cause, and they must develop a story of the breakup based on these sources.                                                                                                                                                      |                                       |                                    |
| <b>19. Making Sense of Our Sensory Systems</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Library 203, Sensory Room</b>      | <b>9:30a &amp; 10:30a</b>          |
| <i>Dr. Julie Nagle and Dr. Erin Long, Assistant Professors of Occupational Therapy, SFU</i>                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                       |                                    |
| This session will include a brief overview of the 8 sensory systems, what happens when our body's sensory needs are not met, and what we can do about it. This session is filled with hands-on learning experiences with several SENSEsational take-aways! You might consider a career in occupational therapy after attending.                                                                                                                                                                                                   |                                       |                                    |
| <b>20. MC Escher and Tilings of the Hyperbolic Plane</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>DiSepio 213</b>                    | <b>11:30a</b>                      |
| <i>Dr. Brendon LaBuz, Associate Professor of Mathematics, SFU</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                       |                                    |
| MC Escher is famous for his stunning works like Relativity which shows an impossible staircase and Drawing Hands which shows two hands drawing each other. Later in his career, he used a model of hyperbolic geometry to create his Circle Limit series. We will explore hyperbolic geometry through these four beautiful woodcuts and then create our own tilings of the hyperbolic plane.                                                                                                                                      |                                       |                                    |
| <b>21. Medieval Engineering</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Stokes Auxiliary Gym</b>           | <b>11:30a &amp; 12:30p</b>         |
| <i>Br. Marius Strom, Engineering Laboratory Instructor; Mr. Jim Eckenrode, Engineering Laboratory Manager, SFU</i>                                                                                                                                                                                                                                                                                                                                                                                                                |                                       |                                    |
| Explore the engineering behind trebuchets as we hurl payloads downrange! Join us as we investigate the physical concepts leveraged by this deceptively simple machine dating back to the middle ages. In this hands-on experience, we will see the sophistication of medieval engineers and what we can learn from them in the modern day. Come and set loose your inner engineer as we examine the fundamentals of engineering and physics at work!                                                                              |                                       |                                    |
| <b>22. NASA Community Anchor: Search for Life in the Universe</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Science Center Atrium</b>          | <b>9:30a &amp; 10:30a</b>          |
| <i>Dr. Lanika Ruzhitskaya, Assistant Professor of Physics, SFU</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                       |                                    |
| Is there life out there? Is it possible that life is hiding somewhere on distant moons and planets in our Solar System? Or maybe there are alien beings that live in other star systems studying our planet? Are we able to answer these questions? During this planetarium session, we will look at the current events in the night sky and go on a journey through the universe in the search for life. This session takes place in the Palumbo Planetarium, and part of the outreach from the NASA Community Anchor on campus. |                                       |                                    |
| <b>23. Set the Mood with Atmospheres in Acting</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>JFK Red Conference Room</b>        | <b>11:30a</b>                      |
| <i>Dr. Lance Mekeel, Assistant Professor of Theater, SFU</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                       |                                    |
| In this session, students will engage in a number of exercises from the Michael Chekhov Technique of acting in developing atmospheres onstage. Students will work with both personal atmospheres and general atmospheres to demonstrate how a single character relates to an environment very differently from any other character, all while sharing the same overall mood. Come ready to play!                                                                                                                                  |                                       |                                    |



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| <b>24. Science Fiction Becomes Reality in the Experiential Learning Commons</b> | <b>Learning Commons G31 A &amp; B</b> | <b>9:30a, 10:30a, 11:30a, 12:30p</b> |
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*Ms. Brenda Guzic, Director of Experiential Learning Commons; Dr. Jessica Gregg, Assistant Professor, Nursing Department; Mr. David Wolfe, Simulation Operation Specialist, SFU*

Visit our Virtual Reality Anatomy Lab for hands-on experience with our virtual dissection/science Anatomage Tables and our mixed reality HoloAnatomy Lenses. In the virtual reality lab, you can swipe your finger to soar through the inside of the ear or view a beating heart. You will see life-size images of human bodies that can be turned or even flipped to get clear images of the body as well as internal organs and bone structure. You can see cadaver images of dogs, cats, small rodents, birds, reptiles, and farm and aquatic animals with regular or diseased anatomy such as a two-headed calf. You can conduct virtual biology, physics and chemistry experiments. You will have a 3D perspective of every part of the body. The mixed sensory experiences enables users to study human anatomy with a high level of detail and interactivity that is revolutionary in the field of medical education.

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| <b>25. Should the United States Ban TikTok?</b> | <b>Pauda 110</b> | <b>9:30a</b> |
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*Dr. Mark Gentry, Associate Professor of Political Science, SFU*

Because of the increase in international tensions between the United States and China, several American lawmakers and presidential candidates have called for severing or severely limiting economic ties with China. As an example, many have called for a ban on the TikTok app, popular with young people, in the United States because of ties to a Chinese firm. The session identifies and critically examines the arguments for and against banning TikTok in the United States. Students will be provided a 1-page summary of opposing arguments, view a short news video on the issue, and then be divided into discussion groups to critically examine the opposing arguments.

|                               |                    |                            |
|-------------------------------|--------------------|----------------------------|
| <b>26. Shut Up and Drive!</b> | <b>Raymond 215</b> | <b>11:30a &amp; 12:30p</b> |
|-------------------------------|--------------------|----------------------------|

*Dr. Amy Hudkins, Clinical Assistant Professor of Occupational Therapy, SFU*

Check out the occupational therapy department's high fidelity driving simulator. Driving is a complex occupation. When a person wants or needs to return to driving after sustaining a medical condition, such as a stroke, occupational therapists can help assess if the person has the skills necessary to drive. Participants will have a chance to experience the driving simulator with a variety of conditions. Caution, this can cause motion sickness.

|                                   |                               |                           |
|-----------------------------------|-------------------------------|---------------------------|
| <b>27. STEAM Careers and You!</b> | <b>Schwab 302, Vista Room</b> | <b>9:30a &amp; 10:30a</b> |
|-----------------------------------|-------------------------------|---------------------------|

*Ms. Beth McGregor, Director of Career Services; Ms. Becky Cacciotti, Assistant Director of Career Services; Mr. Andrew Stopko, Assistant Director of Employer Relations/Internships, SFU*

Today's STEAM professionals create virtual worlds, design amazing machines, invent new materials, construct earth-friendly buildings, and engineer cutting-edge air vehicles. Over the next 20 years, the science, technology, engineering, arts, and math (STEAM) field is projected to grow significantly. You have the chance to be the innovators, educators, and researchers who will change the world. In this session we'll explore careers and majors in the STEAM field and how your personality, interests, skills, and values might fit in a STEAM career. Get started on exploring and preparing for a STEAM career of the future!

|                                             |                   |                           |
|---------------------------------------------|-------------------|---------------------------|
| <b>28. Taste, Aroma, Flavor, and Cheese</b> | <b>Scotus 119</b> | <b>9:30a &amp; 12:30p</b> |
|---------------------------------------------|-------------------|---------------------------|

*Dr. Benjamin Smith, Assistant Professor of Chemistry, SFU*

Chemistry is intimately connected to the world around us through the products we use, the medicines we take, and most importantly in the food we eat. During this session, you will explore the chemistry behind the 5 basic tastes and a few aroma/flavor molecules before applying that information to the tasting of different cheeses.

|                                                      |                    |               |
|------------------------------------------------------|--------------------|---------------|
| <b>29. The Benefits of Combining Art and Science</b> | <b>Raymond 125</b> | <b>11:30a</b> |
|------------------------------------------------------|--------------------|---------------|

*Dr. Brennan Thomas, Professor of English, Dr. Larissa Clachar, Associate Professor of Spanish, SFU*

Some of the most highly successful people, from world leaders and entrepreneurs such as Justin Trudeau (Prime Minister of Canada) and Larry Page (Google co-founder) to celebrities like Mayim Bialik, studied both humanities and scientific disciplines. Find out how these individuals' diverse educational backgrounds in the arts and sciences propelled them to new career heights--and ultimately changed the way they think and view the world.

|                                                       |                                           |                                   |
|-------------------------------------------------------|-------------------------------------------|-----------------------------------|
| <b>30. The Science of Exercise and Human Movement</b> | <b>DiSepio 119, Human Performance Lab</b> | <b>9:30a, 10:30, &amp; 11:30a</b> |
|-------------------------------------------------------|-------------------------------------------|-----------------------------------|

*Dr. Kristofer S. Wisniewski, Associate Professor; Dr. Michelle Stehman, Assistant Professor; Mr. Tyke Steiner, Instructor, Exercise Physiology; and Dr. Mark Boland, Clinical Associate Professor of Physical Therapy, SFU*

During exercise, the heart beats to move blood and oxygen so muscles can move. Blood pressure and breathing rates rise. Muscles produce acid and carbon dioxide. What does all this mean? What does it look like? How do you do it correctly to avoid

injury or increase your performance? See all of this live in the Human Performance Laboratory, and know how your body is able to move. Let us show you the science of exercise and movement!

|                                                                       |                   |                           |
|-----------------------------------------------------------------------|-------------------|---------------------------|
| <b>31. The Science of Music and Mindfulness: Self-Care Strategies</b> | <b>JFK Lounge</b> | <b>9:30a &amp; 10:30a</b> |
|-----------------------------------------------------------------------|-------------------|---------------------------|

*Mr. James Donovan, Assistant Professor of Fine Arts, SFU; TEDx Speaker, Multi-Platinum Recording Artist*

The active use of music-based self-care is scientifically proven to improve your mood, relieve stress, increase mental focus and to build social connections. Musical experience is not required. Beginners are warmly welcomed, and rhythm tubes are provided for all to use during the program. During the session participants will experience how to use music making to energize your body, clear your mind and become deeply relaxed; practice techniques to use rhythm to slow your brainwaves and enter a meditative mind; use rhythm and movement to raise your energy and lift your mood; and connect with each other through musical social games.

|                                                        |                                  |                                           |
|--------------------------------------------------------|----------------------------------|-------------------------------------------|
| <b>32. Tour of the Saint Francis University Campus</b> | <b>Admissions Welcome Center</b> | <b>9:30a, 10:30a, 11:30a &amp; 12:30p</b> |
|--------------------------------------------------------|----------------------------------|-------------------------------------------|

*Ms. Victoria Ivock, Associate Director of Admissions, and Bell Tower Student Ambassadors, SFU*

SFU students will lead a walking tour of the Saint Francis University Campus including classrooms, Library and Learning Commons, DiSepio Institute for Rural Health and Wellness, Science Center, residence hall, and other key locations on campus. During the tour, they will talk about college experience and life on campus.

|                                                                        |                           |                                   |
|------------------------------------------------------------------------|---------------------------|-----------------------------------|
| <b>33. We will R.O.C.K. You! Explore the Lighter Side of Chemistry</b> | <b>Science Center 219</b> | <b>9:30a, 10:30a &amp; 12:30p</b> |
|------------------------------------------------------------------------|---------------------------|-----------------------------------|

*Dr. Edward Zovinka, Professor of Chemistry, Dr. Rose Clark, Professor of Chemistry, and Students: Alexandra Ochs, Joanna Woods, and Taylor Rabatin, SFU*

Have fun while learning chemistry! Explore interactive chemistry with the SFU Chemistry Outreach program using glowsticks, liquid nitrogen, diapers, or ??? It is always something different with the ROCK program. And teachers can learn how we can work together too!

|                                                                            |                           |                            |
|----------------------------------------------------------------------------|---------------------------|----------------------------|
| <b>34. What You See Isn't What You Get: Sensory Tricks in Human Vision</b> | <b>Science Center 101</b> | <b>11:30a &amp; 12:30p</b> |
|----------------------------------------------------------------------------|---------------------------|----------------------------|

*Dr. Justin Merry, Professor of Biology, SFU*

We rely on our eyes to perceive the world around us, but are they really to be trusted? Our eyes have sensory limits, and our nervous system does a lot of work in the background that usually helps us extract useful information from our environment. Sometimes, however, those sensory tricks result in illusions, where we perceive things that aren't real! In this lab, we'll measure the limits of our visual system, and reveal what is happening when our eyes give us misleading information!

|                                                                             |                  |               |
|-----------------------------------------------------------------------------|------------------|---------------|
| <b>35. Who Splashed Coffee on the Wall? A Surface Science Investigation</b> | <b>Pauda 112</b> | <b>12:30p</b> |
|-----------------------------------------------------------------------------|------------------|---------------|

*Dr. Heather Eckenrode-Stiffler, Global Technical Leader, Dow Chemical Company*

All of the objects around us have surfaces. Scientists are continuously working on new inventions to improve the appearance and durability of the coatings that protect those surfaces. In this session, participants will learn about surface coatings and the test methods used to evaluate their performance including one that focuses on investigating the resistance of common household stains such as coffee and lipstick.

|                                              |                    |               |
|----------------------------------------------|--------------------|---------------|
| <b>36. "Why not add a language to that?"</b> | <b>Raymond 125</b> | <b>10:30a</b> |
|----------------------------------------------|--------------------|---------------|

*Dr. Larissa Clachar, Associate Professor of Spanish, SFU*

Consider the benefits of pairing Spanish with other areas of interest like teaching, law enforcement, social work, business, or healthcare. Over 40 million people in the United States speak Spanish, making it the most spoken foreign language in our society. Imagine the doors learning Spanish could open! Learn about opportunities for service and employment and the benefits of bilingualism for our brains and longevity.

|                      |                                |              |
|----------------------|--------------------------------|--------------|
| <b>37. Zentangle</b> | <b>JFK Red Conference Room</b> | <b>9:30a</b> |
|----------------------|--------------------------------|--------------|

*Ms. Jessica Campbell, Assistant Professor of Visual Arts, SFU*

Zentangle drawing is a way to practice focused art meditation through drawing by using repetitive lines, marks, circles, and shapes. Advocates note that it has multiple benefits including calming an anxious mind, increasing self-confidence, and cultivating moment-to-moment awareness in a similar way as mindfulness meditation.

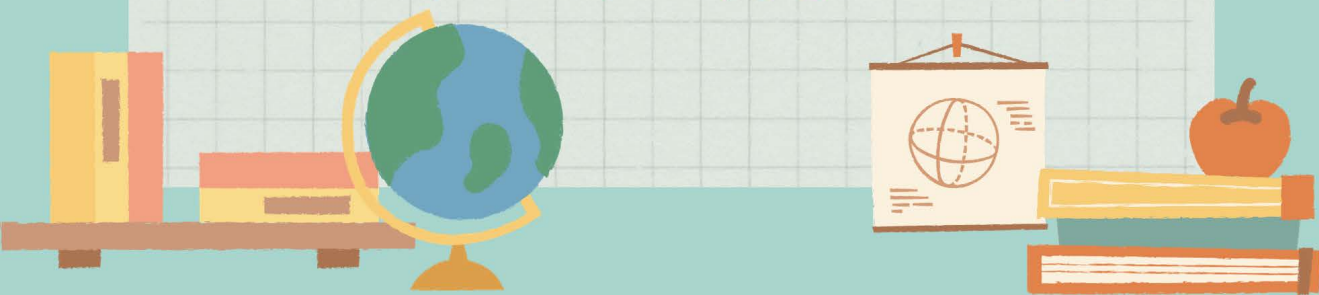


## Teacher's Appreciation Meet and Greet



SFU values and recognizes the dedication of local educators. Please stop by the Education Department suite (Library 305) for light refreshments, a teacher appreciation gift, and the opportunity to network with local colleagues from the teaching profession.

We invite teachers visiting campus to stop by the Education Dept. Suite (Library 305) between 11:30-1:00!



# BIOLOGY MAJOR CHOICES AT SAINT FRANCIS UNIVERSITY

## WHICH PROGRAM IS RIGHT FOR YOU?

Every student pursuing biology has unique interests and goals. The Biology Department at Saint Francis University offers a diverse array of programs that provide students individualized training to match their needs. Students completing the following programs earn a bachelor's degree, and may also earn a concentration in a specific discipline.

### Learn More!

Biology Dept Website  
[francis.edu/biology](http://francis.edu/biology)

 Facebook  
[facebook.com/sfubiology](https://facebook.com/sfubiology)

 Twitter  
[twitter.com/sfubiology](https://twitter.com/sfubiology)

### Contact Us

Dr. Justin Merry  
Biology Dept. Chair  
[jmerry@francis.edu](mailto:jmerry@francis.edu)  
814-471-1105

### Schedule a Visit

[francis.edu/visit-us](http://francis.edu/visit-us)

### GENERAL BIOLOGY PROGRAMS (B.A. Biology or B.S. Biology)

Our general biology majors (no concentrations) offer flexibility in course selections to serve students who have broad interests, or who want to specialize in a way that doesn't match other programs. The B.S. emphasizes a deep grounding in the physical sciences, while the B.A. is designed for students who want a second major, minor, or pre-law specialization.

### ECOLOGY & ENVIRONMENTAL BIOLOGY CONCENTRATION (B.S. Biology)

An emphasis in ecology: how organisms interact with one another and their environment. Spend a semester at Raystown Field Station, where the outdoors is your laboratory. Do undergraduate research in ecology with our faculty during the semester or in the summer.

### JOSEPH EREVELLES PRE-MEDICINE CONCENTRATION (B.S. Biology)

Our pre-physician, pre-dentistry, pre-optometry, and pre-veterinary medicine program. Built around personal attention and faculty advising in a rigorous curriculum that will give you the tools that you need to apply to and excel in the professional school of your choice.

### MARINE BIOLOGY CONCENTRATION (B.S. Biology)

Study the ocean and its inhabitants from the molecular level through all levels of the ecosystem. Our program has a global perspective that is not tied to one particular geography. Students earn scuba certifications, and learn research techniques at coral reefs in the Caribbean, and hone field skills at Chincoteague Bay Field Station.

### MOLECULAR BIOLOGY CONCENTRATION (B.S. Biology)

Study the function of molecules and cells, along with the methods and technologies used to research them. Learn cell culture for work in cell biology, cancer biology, and virology. Upon graduation, students proceed to graduate programs, or lab scientist positions.

### NEUROSCIENCE CONCENTRATION (B.S. Biology & B.S. Psychological Science)

The study of the nervous system: its anatomy, its function, and its applications. Students learn an interdisciplinary approach in this double-major program to explore nervous system function and connections to neuropathologies of movement, sensation, and cognition.

### SECONDARY EDUCATION CONCENTRATION (B.S. Biology)

A complete B.S. in Biology, with all of its rigor and opportunities, along with the education training the Department of Education requires to teach in PA public or private schools.



Biology  
School of STEAM



# ADDITIONAL MAJORS IN THE BIOLOGY DEPARTMENT

## WHICH PROGRAM IS RIGHT FOR YOU?

The following programs are also operated under the umbrella of the Biology department, and offer students new opportunities to blend disciplines or pursue a specialized career path.

### Learn More!

Biology Dept Website  
[francis.edu/biology](http://francis.edu/biology)

 Facebook  
[facebook.com/sfubiology](https://facebook.com/sfubiology)

 Twitter  
[twitter.com/sfubiology](https://twitter.com/sfubiology)

### Contact Us

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Biology Dept. Chair  
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814-471-1105

### Schedule a Visit

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### AQUARIUM & ZOO SCIENCE MAJOR (B.A.)

Training for students who want to work as keepers, educators, or naturalists in zoos or aquaria. Get hands-on experience operating our 1,500 gallon professional-scale aquarium, and gain real-world experience through the animal care practicum and internships.

### BIOCHEMISTRY MAJOR (B.S.)

This program is offered jointly through the Biology and Chemistry departments. Biochemists study the chemical processes that occur in living cells as well as the structure and function of proteins, lipids, carbohydrates, and nucleic acids. Students learn hands-on wet lab techniques to explore biochemistry through courses and research.

### MEDICAL LABORATORY SCIENCE MAJOR (B.S.)

Also known as Medical Technologists or Clinical Laboratory Scientists, our graduates work in clinical and hospital laboratories on the front lines of disease diagnosis, or in forensics labs. This is a 3+1 program; students spend three years at Saint Francis University before a fourth year at one of our six affiliated hospital training facilities.



**Biology**  
School of STEAM



# WHAT CAN YOU DO WITH A BIOLOGY DEGREE?

## CAREER OPTIONS IN THE BIOLOGICAL SCIENCES

Biology is a diverse field. Biologists study life in disciplines ranging from molecular biology and physiology to ecology and evolution. Career options vary just as widely, with options in research, health care, government, law, education, and more. Below is a sampling of career options that our students have pursued.

### Learn More!

Biology Dept Website  
[francis.edu/biology](http://francis.edu/biology)

 Facebook  
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814-471-1105

### Schedule a Visit

[francis.edu/visit-us](http://francis.edu/visit-us)



**Biology**

School of STEAM

## RESEARCH: BASIC & APPLIED

Researchers work for universities, government agencies, and private research institutes. Entry-level positions require a bachelor's degree, while graduate school (M.S. or Ph.D.) is required for greater oversight, control, and management of research projects. Research may specialize in:

- Anatomy & Histology
- Animal Behavior
- Biochemistry
- Bioinformatics
- Biological Engineering
- Biophysics
- Cell Biology
- Conservation Biology
- Ecology
- Evolutionary Biology
- Genetics
- Genomics & Proteomics
- Immunology
- Marine Biology
- Microbiology & Virology
- Molecular Biology
- Neuroscience
- Physiology
- Plant Biology
- Systematics & Taxonomy

## EDUCATION

- Post-Secondary Education
- Secondary Education
- Elementary Education
- Environmental educators working at...
  - Zoos, Aquaria, Museums, Aviaries
  - Theme Parks and Resorts
  - Ecotourism, Camps, Education Voyages

## HEALTH CARE

- Dentist
- Medical Laboratory Scientist
- Optometrist
- Pharmacist
- Physician (Medicine)
- Podiatrist
- Veterinarian

## ENVIRONMENTAL SCIENCE

- Dept. of Conservation & Natural Resources
- Environmental Assessment & Monitoring
- Environmental Scientist
- Fisheries Management
- Forestry
- Natural Resource Management
- Wildlife Management
- U.S. Park Service

## ANIMAL CARE & TRAINING

- Animal Trainer
- Aquarist
- Zookeeper
- Wildlife Rehabilitation & Care

## LAW, BUSINESS, & WRITING

- Environmental Law
- Patent Law
- Science Policy Advising
- Business Management
- Marketing
- Pharmaceutical Sales
- Technical Instrument Sales
- Science Writing
- Science Journalism



## Why Study Nursing?

### Fast Growing Occupation in Industry:

Employment of registered nurses is projected to grow 6 percent from 2022-2032, about as fast as the average for all occupations according to the Bureau of Labor Statistics. Registered nurses with a Bachelor of Science degree in nursing usually have better job prospects than those without. The average wage for Pennsylvania was \$80,630 in May 2022.

| Nursing Industry Sector                         | Median Annual Earnings |
|-------------------------------------------------|------------------------|
| Government                                      | \$92,310               |
| Hospitals; state, local, and private            | \$82,250               |
| Ambulatory Healthcare Services                  | \$78,670               |
| Nursing and Residential Care Facilities         | \$75,410               |
| Educational Services; state, local, and private | \$65,450               |

Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, Registered Nurses, on the Internet at <https://www.bls.gov/ooh/healthcare/registered-nurses.htm> (visited October 2, 2023).

### Career Opportunities for the BSN Graduate

- Nurse Case Manager
- Home Health Nurse
- Traveling Nurse
- Public Health Nurse
- Clinical Research Nurse
- Forensic Nurse Consultant
- Telemedicine Nurse
- Informatics Nurse
- Clinical Nurse Specialist
- Nurse Manager
- Nurse Educator
- Quality Improvement Coordinator
- Legal Consultant
- Acute Care/Outpatient Nurse

## Why Study Nursing at Saint Francis University?

- High NCLEX–RN Licensure Pass Rates
- Freshman Admission into the Nursing Program with Assigned Nursing Faculty Advisor
- Student Athletes are Supported to Continue Sports Participation while in Nursing.
- Low Faculty to Student Ratio
- Individualized Support for Academic Success
- Caring and Supportive Faculty
- Study Abroad and Mission Trip Opportunities
- Engaging Campus Activities and Opportunities



White Coat Ceremony Junior Class Fall 2023



# Become That Someone

Gain the Education You Need to Make a Bigger Impact!

[www.francis.edu/nursing](http://www.francis.edu/nursing)

Saint Francis University Offers:

## Bachelor of Science in Nursing (BSN)

- Traditional Four-Year Program
- RN-BSN Program
- Second Degree/Accelerated Program

## Master of Science in Nursing (MSN)

- MSN - Family (Individual Across the Lifespan) Nurse Practitioner (FNP) Program
- Post-Master's Certificate FNP Program

- **Nursing Program Mission** – Our programs inspire students to dedicate themselves to service, leadership, critical self-reflection, and life-long learning in the Spirit of Franciscan values.
- **Accreditation** – The baccalaureate degree program in nursing and master's degree in nursing program is accredited by the Commission on Collegiate Nursing Education (CCNE) (<http://www.ccneaccreditation.org>).
- **Competitive Tuition Rates** – Scholarship and Discounts may apply.
- **High Nursing Program Retention Rates**
- **Online Programs** – RN-BSN, MSN FNP, and Post-Master's Certificate (FNP)
- **FNP Certification** – 100% pass rate.
- **Simulation-Based Learning** – Student are engaged in simulation activities in the NEW School of Health Science & Education Experiential Learning Commons.
- **Interprofessional Education** – Interprofessional education exposes the School of Health Sciences & Education students to the core competencies that are necessary for collaborative interprofessional practice.
- **Evidence-Based Group Collaboration** – Students participate in research and collaborate with peers on Evidence-Based practice projects.
- **Service & Leadership** – The Student Nurses Organization (SNO) is active in many service events. This gives our students the opportunity to foster a sense of community as they participate in events together. Students also have the opportunity to participate in International Service Mission trips.



Follow us on Facebook and Instagram



Saint Francis University BSN Program  
[@saintfrancisuniversityBSN](https://www.facebook.com/saintfrancisuniversityBSN)



[saintfrancisuniversitybsn](https://www.instagram.com/saintfrancisuniversitybsn)





CHEMISTRY  
DEPARTMENT  
Creating Stronger Bonds

# Become that Chemist!

## Programs we offer:

BA and BS in Chemistry,

BS Chemistry – Secondary Education Certificate

BA - Fermentation Chemistry

BS - Environmental Chemistry

BS - Forensic Chemistry

BS - Chemistry Nanotechnology

BS Chemistry – Pre-Medicine

BS Chemistry – Pre-Pharmacy



## Why Study Chemistry at SFU?

- Award winning American Chemical Society (ACS) student group
- Earn an ACS certified degree in Chemistry
- Undergraduate research opportunities in a variety of areas starting Freshman Year
- Green Chemistry emphasis
- Small class/laboratory sections allow for close interaction with faculty
- Opportunities to attend and present research at National Conferences
- Hands on experience with Industry quality instruments, including Nuclear Magnetic Resonance (NMR), and Gas Chromatography –Mass Spec (GC-MS), etc.
- 100% placement into Pharmacy Schools and Chemistry Graduate Schools
- 98% placement into Medical Schools

## Recent Graduate Highlights

Virginia Commonwealth Dental School

Florida International University Ph.D. Forensic Chemistry

Texas A & M Chemistry Ph.D. program

Marshall Univ. Forensic Chem Grad School

Notre Dame University Ph.D. program

Duquesne University Pharm.D. Program

LECOM Pharmacy school

Medical School Campbell Univ.

Medical School Liberty University



Pennsylvania State University Ph.D. program

Ohio State University Ph. D. program

Process Engineer at Carlisle Construction

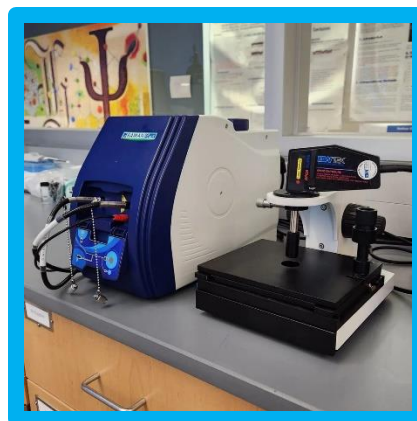
# Saint Francis University Chemistry Department

## Become that Chemist

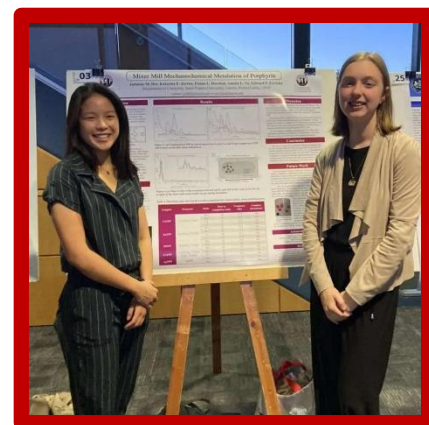


Service  
Then  
Ice Cream

Research



Presentations



Chemistry Club



Outreach

Adventures around the area



Contact us to set up your visit to  
campus!

Dr. Edward P. Zovinka  
ezovinka@francis.edu  
814-472-3373

Visit us at: [www.francis.edu/chemistry](http://www.francis.edu/chemistry)





# Fermentation Chemistry

Bachelor's degree with a Business minor

## Excel in the Growing Fermentation Field

A bachelor of arts degree, with a built-in minor in Business, in fermentation chemistry from Saint Francis University equips students for a future in this growing global industry.

### What you can expect:

- applied learning incorporated through local fermentation partners (Levity Brewing, Woody Lodge Winery, Clover Creek Creamery)
- eligible students receive \$1,000 scholarship annually
- access to top notch equipment and facilities
- courses taught by leading industry experts

### Program Contact:

Dr. Benjamin Smith

Assistant Professor of Chemistry, School of STEAM

Phone: 814.472.3954

Email: [bdsmith@francis.edu](mailto:bdsmith@francis.edu)

Learn more  
and apply today.



SCAN ME

[Francis.edu/fermchem](https://francis.edu/fermchem)



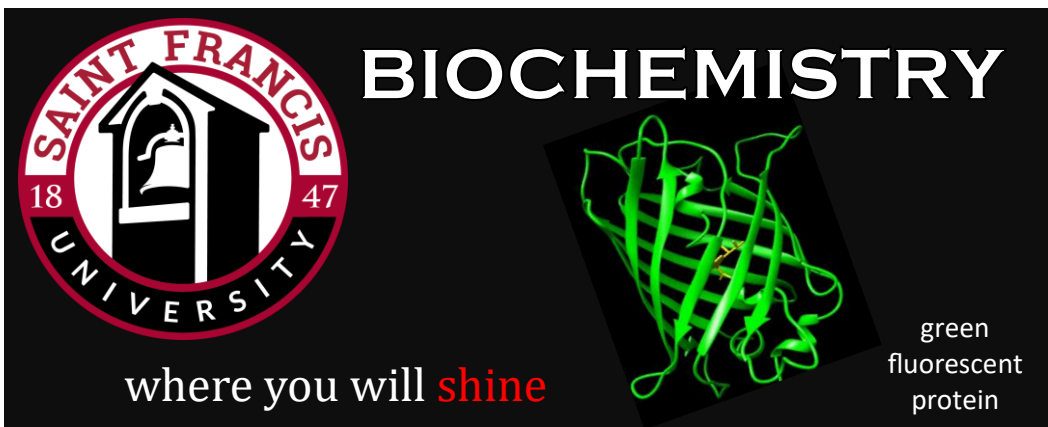


### **Fermentation the Saint Francis University Way:**

- Students will graduate with a reputable degree built on the foundation of the American Chemical Society standards.
- Graduates will have gained a global perspective of fermentation science.
- Through established partnerships, fermentation science students are guaranteed internships with local leaders in a cross section of fermentation industries.
- A blend of curriculum and hands-on learning prepares graduates for the growing industry of wine, cheese, beer-making as well as the food industry.

**The Saint Francis University Fermentation Chemistry program is one of only a handful of programs located in the entire East Coast.**



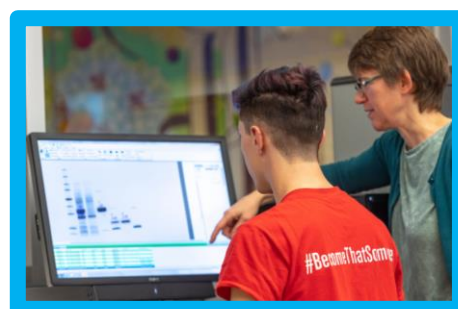


## What is Biochemistry?

Biochemistry is where Biology and Chemistry intersect. Biochemists study the chemical processes occurring in living cells. The structure and function of proteins, lipids, carbohydrates, and nucleic acids are studied.

## Why Study Biochemistry at SFU?

- Interdisciplinary major between the Chemistry and Biology Departments
- Award winning American Chemical Society (ACS) student group
- Undergraduate research opportunities in a variety of areas starting Freshman Year
- Small class/laboratory sections allow for close interaction with faculty
- Opportunities to attend and present research at National Conferences
- Earn an ACS certified degree
- 100% placement into Graduate Schools
- 100% placement into Medical Schools



## Graduate Successes



Virginia Commonwealth Dental School  
 Ohio State University Ph.D. program  
 Pennsylvania State University Ph.D. program  
 Liberty University College of Osteopathic Medicine  
 Medical school at LECOM  
 Carlisle Construction  
 Pharmacist at the Mayo Clinic

**Contact us to set up your visit to campus!**

Dr. Michele Hargittai  
 mhargittai@francis.edu  
 814-472-2775



# Center for Fine Arts

**Pursue Your Career AND Keep Your Passion Alive**



**VISUAL  
ARTS**



**THEATRE**



**MUSIC**



**UNIVERSITY  
BANDS**

## COMING SOON

SAINT FRANCIS UNIVERSITY

**CONNORS FAMILY  
FINE ARTS CENTER**

HOME OF THE RESINSKI BLACK BOX THEATRE



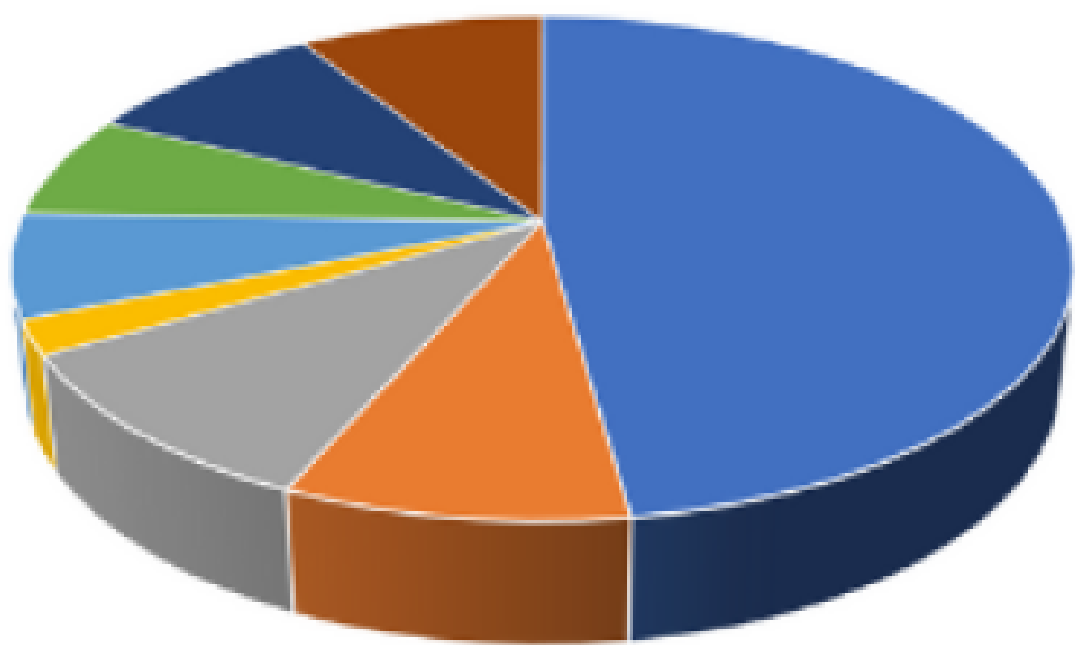
For more information contact Jess Campbell  
[jcampbell@francis.edu](mailto:jcampbell@francis.edu)



# Yes, Virginia, you can get a job in history!

## Percent of SFU History Alumni\* by Field Employed

SFU Alumni Employed by Field



■ Education ■ Law ■ Government ■ Military  
■ Sales/Marketing ■ Finance/Business ■ Management ■ Other

### Field % employed

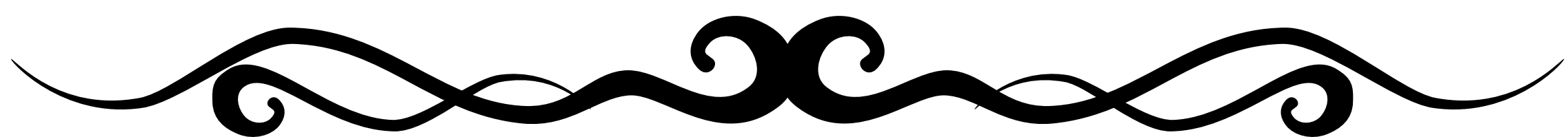
- Education • 48%
- Law • 8%
- Government • 9%
- Military • 2%
- Sales/Marketing • 6%
- Finance/Business • 6%
- Management • 8%
- Other • 8%

\*based on a survey of 407 alumni from 1950-2013



### Degrees:

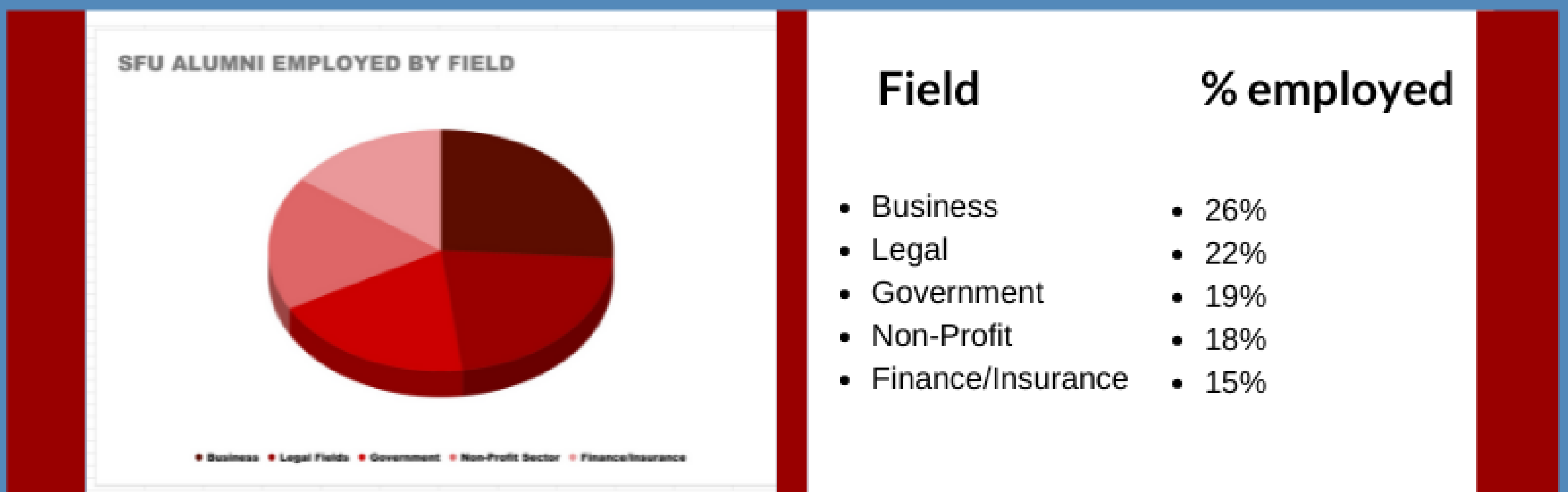
- History, B.A.
  - History, B.A. with Pre-Law Concentration
  - History, B.A. and Social Studies/Secondary Education
- + History Club!





# See Your Future in Political Science and Pre-Law

Percent of SFU Political Science Alumni by Field Employed



Political Science B.A. with concentrations in:

- pre-law
- international studies
- public administration/ government service
- political communications



Paralegal Minor  
available

Hands-on internship  
opportunities



# English



## Follow your passions and discover a career!

Whether in the classroom, presenting at academic conferences, chatting around the fire, or visiting historical sites, you'll have a plethora of experiences as an English major at Saint Francis University. The majors offered by the English Department at SFU can help students hone their analytical, communication, and problem-solving skills, which are essential to any career. The study of writing and literature enhances our ability to use language to express ourselves in argument and art, to inform and raise public awareness, and to affect social change.

Our majors have pursued careers as educators, journalists, doctors, lawyers, fundraisers, and artists. They work in the media, in the non-profit sector, in public service, and in many other areas.

You can choose from a concentration in Literature, Secondary Education, or Writing, and the curriculum leaves you free to pursue a double major in fields like Spanish, history, biology, or psychology. In Saint Francis University's English program, the possibilities are endless.



For more information, visit our website at  
<https://www.francis.edu/academics/degrees-programs/english>  
or contact Dr. Brennan Thomas at [BThomas@francis.edu](mailto:BThomas@francis.edu)

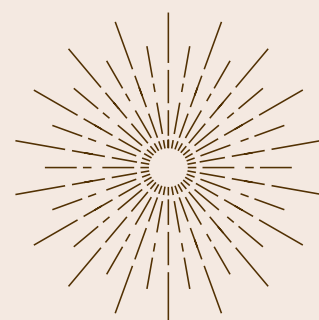






Hispanic Heritage Month - Altoona Library Youth

# OUR SPANISH PROGRAM



Spanish BA  
 Spanish BA - Secondary Ed  
 Spanish Minor  
 Spanish Minor - Medical  
 Spanish Minor - Law Enforcement

**Benefits:**  
 Bilingualism  
 Travel  
 Service  
 Marketability

Spanish pairs well with everything, but learning a new language is not just about saying words in a different language, it's about understanding a different world view.



Mission of Mercy - Pittsburgh

**Contact Dr. Larissa Clachar**  
**[lclachar@francis.edu](mailto:lclachar@francis.edu)**





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# Enhance Your Educational Experience



Scan QR Code  
for More  
Information!

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Marking 40 years of cultivating intellectual curiosity, encouraging critical thinking, and connecting creativity, service, and academic pursuits, the Saint Francis Honors Program looks beyond test scores and seeks individuals with grit and character who possess the drive to do more.

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## Program Highlights

- Honors Designated Courses
- Priority Registration
- Service Project
- Discussion-based Classes
- Honors Housing
- Mentored Thesis Project
- Community-Engaged Learning
- One-on-One Advising
- Self-Designed Classes
- Wellness Instructions

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## Contact Information

Email: [honors@francis.edu](mailto:honors@francis.edu)

Honors Program Director  
*Irene M. Wolf, PhD*

Associate Honors Program Director  
*Arthur Remillard, PhD*

Instagram: @sfuhonorsprogram

Facebook: [facebook.com/SFUHonors](https://facebook.com/SFUHonors)





# SAINT FRANCIS UNIVERSITY

## Summer Academies



One-week long summer academies  
for students entering grades 11 and 12

Live and learn at our beautiful campus in Loretto, Pennsylvania

Earn a college credit!

Learn more at:  
[francis.edu/steam-summer-academies](http://francis.edu/steam-summer-academies)

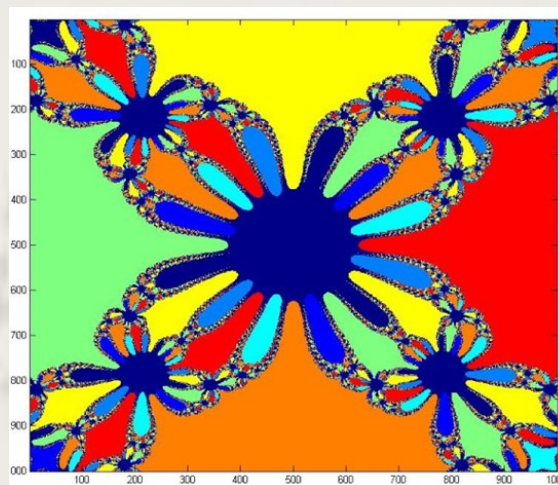


# SAINT FRANCIS UNIVERSITY MATHEMATICS PROGRAM

Mathematics is one of the most diverse majors that you can choose. Mathematics majors work in every imaginable industry and are prepared to step into fields that don't even exist today. Mathematics careers (including mathematicians, actuary, and statisticians) repeatedly hit the annual lists of top paying careers. A Saint Francis mathematics degree can help you open the door to an exciting career no matter which path looks most interesting to you. *Become that someone!*

## Program Highlights

- Highly Successful Career Paths
- Research & Internship Opportunities
- Challenging Curriculum
- Strong Educational Program
- Undergraduate Research Opportunities
- Small, Engaging Class Sizes



## Special Concentrations

- Actuarial Science
- Applied Mathematics
- Secondary Education



[www.francis.edu/mathematics](http://www.francis.edu/mathematics)

### Faculty Contacts:

Dr. Norbert Youmbi, [nyoumbi@francis.edu](mailto:nyoumbi@francis.edu)

Dr. Brendon LaBuz, [blabuz@francis.edu](mailto:blabuz@francis.edu)

Dr. Ying Li, [yli@francis.edu](mailto:yli@francis.edu)

# Become an Engineer at



## Saint Francis University

*Are you ready to change the world?*

As an engineer, you will use your curiosity and creativity to solve the grand challenges facing the world today.

*Teamwork and hands-on problem solving*

*Small class sizes*

*Real-world service-learning opportunities*

**We want YOU to join our team!**

**For more information, please contact:**

**Dr. Rachel Wagner, P.E.**

**[rwagner@francis.edu](mailto:rwagner@francis.edu)**

**Department Chair, Engineering**

**814.471.1215**



# Environmental Engineering

## Saint Francis University

### About Us

Real world experience is the hallmark of a Saint Francis University environmental engineering education. Our students gain the professional skills they need by putting their education into action both in the classroom and through internships and co-curricular experiences. As one of only 66 ABET accredited environmental engineering programs in the country, we offer a rigorous curriculum; but as a small liberal-arts institution in the Franciscan tradition, we also offer the support and advising to help students succeed.

### What is Environmental Engineering?

Environmental engineering is fundamentally about human health. To lead long and productive lives, people need to have secure and sustainable access to natural resources like safe drinking water, clean air, and healthy soil. Environmental engineers design systems and infrastructure to utilize our natural resources while also preserving them for the future. Like all engineers, we use math and science to solve practical problems. But, because the environment is so broad in scope, environmental engineers rely on all the branches of math and science and on any given day, our work could involve time in the field, the lab, or the office.

### A Hands-On Curriculum

Beginning with a foundation in math and science, our ABET accredited program quickly leads students from the fundamentals to real-world applications. We incorporate ample hands-on activities in the field and in the lab into our courses and we use real-world projects throughout our program to ensure that our students are gaining practical experience and not just theoretical knowledge.

### Experiences Beyond the Classroom

Environmental engineering students at Saint Francis do more than just take courses. They also put their education into practice through engineering co-curricular experiences like internships, undergraduate research, international engineering service projects, and travel to professional conferences. Our small class sizes allow us to help each student develop a portfolio of experiences that will directly advance their career goals be it graduate school or work in industry.

### Employment Outlook for Environmental Engineers

Ninety-seven percent of our graduates are either currently employed or are in paid graduate assistantships as they continue their education. The outlook for continued employment success is quite strong for environmental engineers. The Bureau of Labor Statistics projects 12% growth in environmental engineering over the next decade and environmental engineers are needed in all regions of the U.S. The median pay for an environmental engineer is \$85k and services like clean drinking water and clean air are always in demand.



[www.francis.edu/environmental-engineering](http://www.francis.edu/environmental-engineering)

For more information, please contact:  
Dr. Travis Tasker, Assistant Professor  
Environmental Engineering  
814.471.1215  
TTasker@francis.edu



# General Engineering

## Saint Francis University

### About Us

Focused on the fundamental principles of engineering in broad application, our general engineering program provides a rigorous treatment of problem solving, experimental design, project management, programming, and applied science and math. Students in this major **become practitioners of the engineering art** with the flexibility to pursue a career either as an engineering generalist or in any of the broader engineering sub-fields like mechanical, civil, or electrical engineering.



### Our Curriculum

All engineers start with basic math and science and then move on to practical applications. For our general engineers the applied coursework is distributed across the engineering disciplines including topics like circuits, material science, and heat transfer. Beginning in the junior year, general engineering majors also have the opportunity to take technical electives where they can pursue one or more of the engineering sub-fields that match their interests.

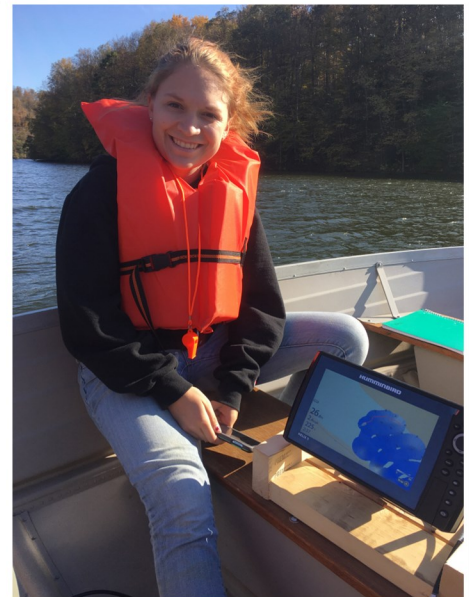
**Presently established pathways for advanced coursework include: mechanics, computational modeling, aeronautics, robotics, and innovation and entrepreneurship.**

### Hands-On Experience

Practical experience is the hallmark of a Saint Francis University engineering education. For our general engineering majors this takes the form of ample laboratory and project work as well as internships and/or research experiences during summer months. **We take advantage of our small class sizes to give individualized attention to each student** as they develop hands-on engineering skills and we carry that personal touch forward into advising on career choices and strategies for success.

### Career Paths for General Engineers

Graduates from the program are **generalists with a depth of preparation in mathematics, computer science and fundamental engineering along with excellent technical and creative problem solving skills which enables their entry into almost any engineering discipline.** This preparation has enabled SFU General Engineers to secure internships and full-time employment at General Dynamics Electric Boat, NASA's Johnson Space Center, HF Lenz Co., Curry Rail Services, Brandenburg Industrial Services, and at many other companies!

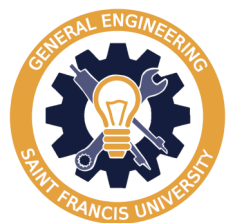


### General Engineering at SFU

General Engineering is a growing, exciting major at Saint Francis University! The program **received its accreditation** from the Accreditation Board for Engineering and Technology, Inc. (ABET) in Fall 2021.

[www.francis.edu/general-engineering](http://www.francis.edu/general-engineering)

For more information, please contact:  
Dr. Timothy F. Miller, P.E., Associate Professor  
General Engineering  
814.471.1215  
[TfMiller@francis.edu](mailto:TfMiller@francis.edu)





# Computer Science

Saint Francis University

## Solving Problems and Getting it Done!

It has become difficult to imagine the world without the influence of computer technology. The need for those who can wield it is great!

***You can make real impact.*** Computer technology drives much of our lives. The medical field, education, entertainment, robotics, architecture, security, social networking; your ability to make a real impact on people and society is vast.

***The digital age needs computer scientists.*** Computer programs have infiltrated every aspect of our lives. Computer scientists design, develop, and apply the software for the programs we use day in day out – pretty important stuff.

***Computer scientists are creative puzzle solvers.*** Computer scientists wield their array of skills to solve all kinds of problems. Each wave of technology provides opportunities and platforms to develop and create innovative solutions to help us all.

***Computer scientists have amazing variety in their jobs.*** Whether it is bringing something new to the appearance of a program, process or application, developing and improving its function, innovation drives these jobs. You will always be learning something new.

***Computer scientist careers will experience practically unlimited growth.*** The exponential growth in technology has seen in the past ten years the emergence of Twitter, Facebook, smart phones, wireless communications and many other technological advances in fields such as medicine, robotics, drones and autonomous cars. At the current rate of growth, by 2020 the technological landscape and its influence on our daily lives will be nearly unimaginable.

***Earn really big bucks!*** Computer scientists are in demand and their salaries reflects this. Recent graduates in professional roles earn quite a lot on average. Not only that, but salaries rise with demand, so as the demand increases so will your earning potential.

[www.francis.edu/Computer-Science](http://www.francis.edu/Computer-Science)



For more information, contact:  
Dr. Daniel Wetklow, Program Lead  
Computer Science  
814.471.1215  
[DWetklow@francis.edu](mailto:DWetklow@francis.edu)

become that  
**someone**



## Do you like Solving Puzzles and Getting Paid for it?

***Cybersecurity professionals make real impact.*** From guarding the energy grid, to the privacy of a person's data, to defending a pacemaker in an elderly patient—your work will matter. Cybersecurity extends beyond the digital world and into the physical one. What's under constant attack is more than just our networks, devices, servers, applications and data; it's also our mobile, flexible, connected way of life. Defending this is a terrifying and exciting prospect and one that is an important and noble cause.

***Cybersecurity professionals are creative puzzle solvers.*** Cybersecurity professionals rely on tried-and-true principles, but the tactics change day-to-day. There's always a new puzzle or threat that needs to be solved. With each new wave of technology, new risks are created. It's the job of Cybersecurity professionals to identify, understand, and then help address these risks.

***Cybersecurity professionals have lots of variety in their jobs.*** Cybersecurity professionals get the chance to work directly with teams on technologies and systems they never dreamed of. From robots to cars to websites serving millions and millions of users, the variety is near infinite. That's an exciting career prospect. Bored is not a word you'll be using often.

***Cybersecurity careers will experience practically unlimited growth.*** Given omnipresent reports about cyber crime, it's hardly a surprise that experts are predicting a worldwide shortage of information security professionals looking toward the future. It's hardly a surprise that Infosecurity routinely tops lists of the best jobs out there. It was recently ranked eighth on U.S. News and World Report's rankings of top careers, due in no small part to a meteoric growth rate of 36.5 percent over the next half-decade.

***Cybersecurity professionals get great paychecks.*** Cybersecurity professionals are extremely well compensated for their skills and talents. Not only that, but salaries rise with demand, so as the shortage increases so will your earning potential.



[www.francis.edu/Cybersecurity-Administration](http://www.francis.edu/Cybersecurity-Administration)

For more information, contact:  
John Valkovci, Program Lead  
Cybersecurity  
814.471.1215  
[JValkovci@francis.edu](mailto:JValkovci@francis.edu)





# Aviation Specialization



Discover the World of Commercial Aviation!  
No previous flight experience needed.



➤ Start with no flight experience and walk out at the edge of a career in flight.

➤ Admissions paths are open for both traditional undergraduate students and working professionals.

The Aviation Specialization, provided in coordination with Nulton Aviation Services, catapults a student with no past flight experience to the edge of commercial aviation.

**Pilot Training Program:**  
**3 theory courses and**  
**6 flight labs**



Through the specialization, you can:

- obtain a Private Pilot License and a Commercial License within 3.5 years.
- prepare for a career in commercial aviation by leveraging Saint Francis University's **Elite Partnership with SkyWest Airlines.**
- enhance your marketability in law enforcement, engineering, and other fields.

## Contacts:

**Br. Marius Strom, TOR**  
Academic Adviser, Aviation Program  
[mstrom@francis.edu](mailto:mstrom@francis.edu)

**Dr. Tricia McFadden**  
Dean, Division of Professional Studies  
[professionalstudies@francis.edu](mailto:professionalstudies@francis.edu)  
1-800-457-6300



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**[francis.edu/aviation](http://francis.edu/aviation)**

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## ***SCHOOL OF STEAM BY THE NUMBERS***

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- 2,277,375** dollars in external grants secured for the 2022-2023 academic year by STEAM faculty and staff.
- 16,719** friends in the community engaged in 66 STEAM activities during the 2022-2023 academic year.
- 350** students enrolled in STEAM programs during the Fall 2023 semester.
- 57** faculty in STEAM during the Fall 2023 semester to challenge, support, and mentor students.
- 28** students completed undergraduate research in the summer of 2023, received minimum wage, housing, and a meal plan.
- 15** students on average in each STEAM class, to ensure students are engaged and involved, able to ask and answer questions.
- 6** students for each faculty member (student to faculty ratio), ensuring students get individual attention.
- 1** **THE WAY YOU WILL BE TREATED FOR MENTORING AND SUCCESS!**

#becomethatsome**ONE**







# Loretto, PA

## Campus Legend:

- |                                                                     |                                                                             |                                          |
|---------------------------------------------------------------------|-----------------------------------------------------------------------------|------------------------------------------|
| 1. Admissions Welcome Center                                        | 23. Lake Saint Francis*                                                     | 44. Scotus Hall/ Office of the President |
| 2. Amici Hall                                                       | 24. Lakeview Snow Tubing Park *                                             | 45. Small Business Development Center    |
| 3. Ave Maria Hall                                                   | 25. Mail Services                                                           | 46. Softball Field                       |
| 4. Bach Family Honors House*                                        | 26. Main Campus Entrance                                                    | 47. South Campus Entrance*               |
| 5. Bell Tower                                                       | 27. Maurice Stokes Athletics Center & DeGol Arena                           | 48. Southern Alleghenies Museum of Art   |
| 6. Christian Hall                                                   | 28. Mount Assisi Friary & Gardens*                                          | 49. Spalding Cottage                     |
| 7. Commuter Parking                                                 | 29. Our Lady of Lourdes Grotto, Pieta Shrine Stations of the Cross Entrance | 50. Stokes Soccerplex                    |
| 8. DeGol Field House                                                | 30. Padua Hall                                                              | 51. Sullivan Hall                        |
| 9. DeGol Field & Fr. Bede Track                                     | 31. Pine View Terrace Townhouses                                            | 52. Torvian Dining Hall                  |
| 10. DiSepio Institute for Rural Health & Wellness                   | 32. Raymond Hall                                                            | 53. Track Throws Area                    |
| 11. Dorothy Day Outreach Center*                                    | 33. Roundstone Cottage                                                      | 54. University Police                    |
| 12. East Campus Entrance                                            | 34. Sacred Heart Friary                                                     | 55. Visitor Parking                      |
| 13. East Gate Hall*                                                 | 35. Saint Agnes Hall                                                        | 56. Connors Family Fine Arts Center      |
| 14. Saint Margaret Hall                                             | 36. Saint Clare Hall                                                        | 57. Hoop House                           |
| 15. Franciscan Cemetery                                             | 37. Saint Elizabeth Hall                                                    |                                          |
| 16. Giles Hall                                                      | 38. Saint Francis Fountain                                                  |                                          |
| 17. Health Sciences Experiential Learning Commons                   | 39. Saint Francis Hall                                                      |                                          |
| 18. Immaculate Conception Chapel                                    | 40. Saint Joan of Arc Hall                                                  |                                          |
| 19. Immergrün Golf Course                                           | 41. Saint Louis Hall                                                        |                                          |
| 20. JFK Student Center, Frankie's Campus Club, and Campus Bookstore | 42. Schwab Hall & Adamucci Cafe                                             |                                          |
| 21. St. Joseph's Physical Plant                                     | 43. Science Center                                                          |                                          |
| 22. Library and Keirn Family World War II Museum                    |                                                                             |                                          |

Accessibility Map  
available upon request

\*Not Shown