

Sentinel & Enterprise

Monday, April 20, 2020 \$2.00 FACEBOOK.COM/SENTINELANDENTERPRISE TWITTER.COM/SENTANDENT

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CHANGE TO REMOTE LEARNING

FITCHBURG STATE SUCCEEDS ONLINE



COURTESY CHRISTOPHER SUTCLIFFE

Fitchburg State University freshman Christopher Sutcliffe completes some classwork.

By Daniel Monahan
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FITCHBURG » Students and faculty members of Fitchburg State University are pressing on with education during the COVID-19 crisis through remote learning tools and applications.

Several professors and students said Friday that continuing education online has been a struggle at times, but also a striking example of people coming together to make it work.

Jennifer Berg, chair of the mathematics department, said faculty had a week before the university closed its doors to

think of ways to move face-to-face courses to online instruction.

“Many, myself included, have never taught online and shifting from what was happening before spring break and after it was hard to get your head around,” Berg said. “Administratively I had to move department communication to on-

line.”

Berg said the university has done a tremendous job making the transition despite those early challenges.

She said faculty members have committed themselves to serving as a point of stability for students and many systems have been put in place to help

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students get the materials they need to continue learning.

One persisting issue, she said, is that there are some things students need that the university can't provide.

"It turns out it is very hard to learn about organic chemistry, grapple with the nature of infinity, and investigate the physical and philosophical implications of consciousness while you also have to help watch your little sister who is now being home-schooled," Berg said.

The problem is compounded when students have to help their families pay bills and anxiety is at an all-time high, she said.

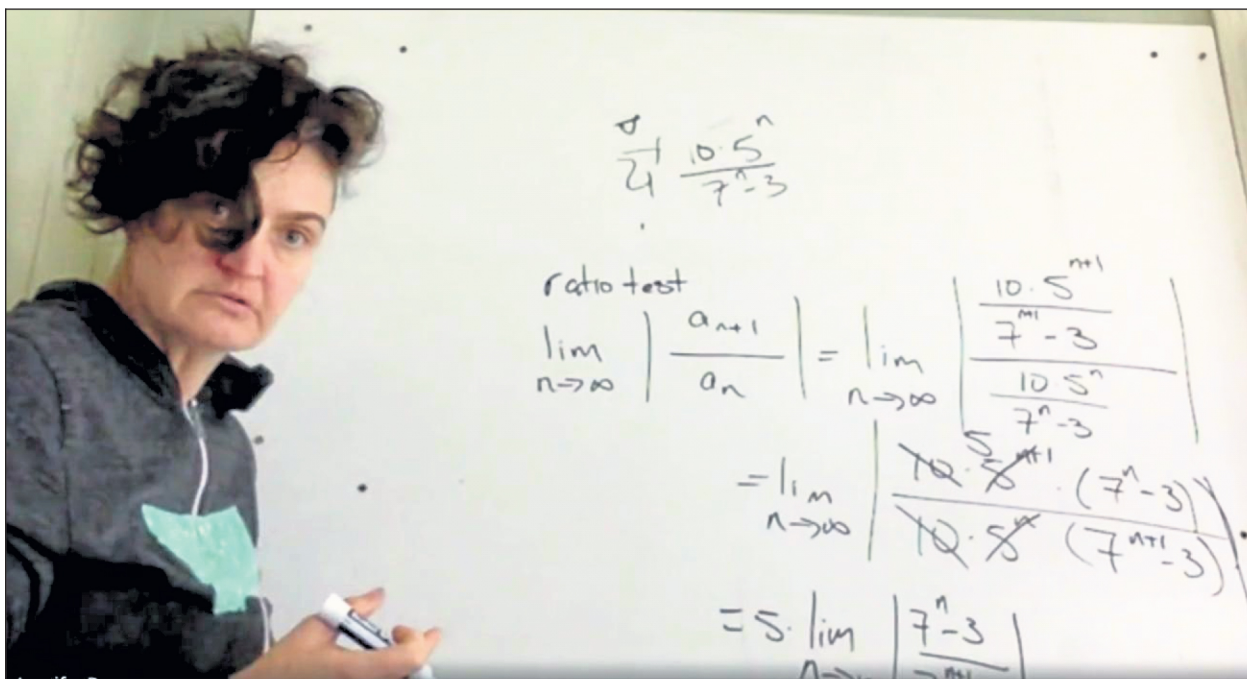
She said the current situation is going to reinforce a lot of inequity for students.

Students whose parents went to college know that their children need time and space to do the work, she said.

And families where the student is the first to go to college might not know how to provide some of the resources students need to do school work at this time.

"This is heartbreaking," Berg said. "I came to teach at Fitchburg State because I wanted to teach students who are doing the really hard work of being the first in their family to try higher education. This situation makes it really clear that higher education can't do that alone."

Berg said remote teaching has consisted of online meetings with students, answering emails and recording herself answering questions about coursework. Once a week she holds a class meeting for students to ask questions in real time.



Jennifer Berg, the chairman of Fitchburg State University's mathematics department, works on an equation during a distance learning class.

COURTESY FITCHBURG STATE UNIVERSITY

"Exams have been the hardest to move to online," she said. "In some classes I've even given up the idea of trying to give a traditional exam."

Danette Day, an associate education professor, says the transition from teaching students in the classroom to teaching them virtually has been relatively smooth.

"Heading into this situation, it wasn't very difficult for me to transition because I already had experience with Google's learning platform and received training months ago," Day said.

Day said she prefers teaching her courses with as little technology as possible, but she recognizes how important it has been during the unprecedented time at the university.

While she'd usually have students conduct group discussions inside the classroom, Day is finding new ways to engage them and has learned that some students are thriving in this new environment.

"The students who are

usually a little more introverted actually became more vocal," she said. "And some of the more extroverted students have learned to take a step back and open the space up to others. I started to hear from everybody."

The transition has not been without its complications, which included being capable of teaching fully online, she said.

Day said she did not have high-speed internet access in her home prior to the onset of the crisis, so she had it installed. She also needed a computer with greater processing power to handle some of the applications she was using, so the university's IT Department sent her new one.

"I am pretty much equipped right now to teach however I need to," she said. "I do want to make sure that this experience is meaningful for students, but I do want to go back to meeting with my students face-to-face as quickly as I can."

Associate professor of

biology and chemistry Erin Rehrig said she was somewhat prepared for the changes after teaching online courses before. However, the suddenness of the COVID-19 crisis has forced her to think outside of the box.

"I miss having the personal connection with my students that I get by seeing them in class and in the lab," Rehrig said. "I've hosted some Google Hangout meetings for review sessions so I am happy to see them even though it is across a computer."

Rehrig said the biggest challenge for her has been creating "authentic" laboratory experiences for students to do virtually.

She said it's not as beneficial as actual lab work, but professors are doing their best given the situation.

Some of her colleagues are teaching labs synchronously while others have recorded videos or are using data from previous semesters. Librarians are also working to help identify online labs and teach-

ing materials, she said.

According to Rehrig, the most advantageous thing about remote learning has been the flexibility it offers students.

"By having an online learning environment, students can do the work on their own time when it is convenient for them," she said.

Rehrig said it has also been challenging to balance teaching with her home life.

"My two young children are home from school and often are running feral in the background while we try to work," Rehrig said. "I have been trying to make sure they do all of their school work, get outside to play, and do creative things but it is hard to balance supervising them, getting work done, and planning meals."

Christopher Sutcliffe, a freshman majoring in communications, said the COVID-19 crisis has uprooted many of the things he was looking forward to this year.

"I had to come home

abruptly and put everything on hold with my future semester at Fitchburg State University up in the air," Sutcliffe said.

Sutcliffe said every professor has a different approach to teaching remotely. While some still hold weekly courses online, others are assigning work on a bi-weekly basis, he said.

The transition for most of the professors was swift and easy, he said.

"They seemed like they wanted to be teaching again and wanted to see their students," Sutcliffe said. "They know that no one can control this situation and the professors that I have made the best of a really bad situation."

He said the lack of face-to-face interactions was detrimental in his more difficult coursework like statistics.

"It was really beneficial for me to have the face-to-face help and ask questions in our weekly sessions," Sutcliffe said. "Now that I have to watch videos and read books to supplement that face-to-face time, I have really started to struggle."

Ashley Hudson, a senior studying biology and chemistry, said the shift to online coursework has actually allowed her to get assignments done on a schedule that works for her.

She said the biggest challenges for her have been communication with professors and staying focused.

"The transition has been hard definitely, but I think we are all doing our best," Hudson said. "The teachers have had to adjust just as much as we have, but together it is seeming to work out. They have been more relaxed with due dates, have changed syllabi around for us to be able to do our best and that's all we can really ask for."

HIGHER EDUCATION

After going remote, uncertain future

By Katie Lannan

State House News Service

While still grappling with the immediate impacts of the COVID-19 pandemic, state higher education officials on Wednesday looked ahead to the longer-term challenges expected to face public campuses and their students.

“As challenging as it might be in the short-term, I think we’re all increasingly aware that what’s going on now is likely to have significant ramifications beyond the immediate moment,” Education

Secretary James Peyser said during a remote meeting of the Board of Higher Education.

Peyser said the state’s higher education system should begin looking toward this fall and beyond, trying to understand the coming fiscal and operational challenges and get ahead of them to the degree possible.

“Even healthy institutions are struggling right now under this current environment,” he said.

As the new coronavirus was becoming more prominent in the United States last month, public and private colleges and universities across Massachusetts and the country suddenly had to shift into a remote-learning mode, closing their residence halls, canceling or postponing commencements and other events and moving their courses and services online.



SAM DORAN / SHNS FILE

Higher Education Commissioner Carlos Santiago said there are ‘real questions about what our fall enrollments will look like.’

Sheila Harrity, the board’s vice chair and the superintendent-director of the Montachusett Regional Vocational Technical School District, likened the situation to building an airplane while already in mid-air.

Board members projected that finances will be a significant and long-term issue for higher education campuses that, while incurring new costs associated with remote learning and other adjustments, are also facing reduced revenues from not having students on campus and an expected tightening of student and family budgets.

North Shore Community College President Pat Gentile, who chairs the Massachusetts Community Colleges Council of Presidents, said the state’s 15 community colleges “have already spent an enormous amount” of their fiscal 2020 budgets on the

unexpected expenses of going remote.

The community colleges’ chief financial officers recently tallied the costs of additional cleaning, information technology and equipment at nearly \$17 million, she said, and have estimated the pandemic’s overall impact on community colleges is at nearly \$47 million.

“Although that seems like a whole lot of money, the CFOs believe it is a very conservative estimate,” Gentile said.

Gentile said that while everyone is encountering difficulties amid the public health crisis, the struggles “are deeper and much more challenging” for the lower- and middle-income students who make up the vast majority of community college students. She said many rely on food pantries, computer labs, libraries and tutoring centres on campus to com-

plete their studies, along with an “in-person touch” to support them in their learning.

The board’s student members and advisers detailed some of the obstacles their peers have run into in the new remote learning landscape.

Mount Wachusett Community College student Abby Velozo raised the issue of retention, saying the pervasive uncertainty could drive students to drop out. “Some people, this is their first semester or first year, and it’s scary,” Velozo said. “You don’t know what’s going to happen next.”

Higher Education Commissioner Carlos Santiago said there are “real questions about what our fall enrollments will look like.” He said he’s heard anecdotally of some students who are considering whether to stay, as they deal with job losses, added child care responsibilities, and “a degree of stress that I think is leading them to not prioritize their higher education experience.”

Fitchburg State University President Richard Lapidus, who chairs the State University Council of Presidents, said the decision to issue refunds was made in recognition of the financial hardships many students are now experiencing, and said the total cost of reimbursing state university students is \$46.8 million. UMass officials have pegged the cost of their refunds at about \$70 million.

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FITCHBURG STATE UNIVERSITY

FSU gets \$100,000 donation

Submitted Article

FITCHBURG » Students in the Engineering Technology Department at Fitchburg State University will be benefiting even more from the university's long-standing collaboration with the Associated General Contractors of Massachusetts.

The organization has provided dozens of internships and jobs to students and graduates, and now it has donated \$100,000 to Fitchburg State to support curriculum and provide additional lab support. These investments will help students with licensure requirements to meet the industry's workforce needs for construction managers and engineering technologists.

"This generous donation from AGCMA is an endorsement of Fitchburg State's ongoing com-

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Donation

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mitment to preparing students for successful careers in Massachusetts and beyond," Fitchburg State President Richard S. Lapidus said. "We are grateful for AGCMA's continued collaboration that has created unparalleled opportunities for our students."

"AGCMA is very pleased to provide this donation to the Fitchburg State University Construction Management program," AGCMA President and CEO Robert L. Petrucelli said. "The donation was made possible by a gift from several AGC construction firms and an industry advancement fund from the Greater Springfield region.

These contractors wisely believed in the necessity of ensuring the continuation of quality construction management education programs for students at our public institutions of higher education. AGCMA is proud to support the excellent work of the construction management faculty at Fitchburg State

University as well as the AGC MA Student Chapter on campus."

"This gift from AGC supports Fitchburg State's vision to be the commonwealth's top-ranked provider for an affordable Construction Management education," said Dean of Business and Technology Keith Williamson.

"AGC's commitment to quality Construction Management education is unparalleled, not only by this tremendous gift, but through internships, career fairs, and long-standing support on our Advisory Board for the Construction Management program," Engineering Technology Department acting Chair Keith Chenot added.

The funds will be used to provide support to the university's efforts in meeting the Accreditation Board for Engineering and Technology standards for continuous improvement and meeting the quality standards established by the Construction Management Association of America, which serves as the lead society for the accredita-

tion of construction management programs.

According to its website, the CMAA was accepted in 2013 as a member society of the ABET, said to be the pre-eminent organization accrediting undergraduate and graduate education programs in applied science, computing, engineering and engineering technology fields. As a result of AGC's generosity, Fitchburg State will be pursuing ABET accreditation of its construction management programs.

By helping to ensure that undergraduate construction management education effectively prepares students to enter the profession, ABET, AGC and CMAA significantly complements Fitchburg State's mission and vision, officials said, adding that the quality of tomorrow's professional workforce is among the most frequently cited concerns in the construction management industry.

Accrediting the university's construction management programs assures AGC and other industry employers that entry-level

job candidates have met the basic educational requirements of the profession. It also provides students specifically interested in construction management careers with a way to assess construction management programs they are considering.

Fitchburg State University's Engineering Technology Department serves about 190 students annually. The department's two degree programs, in Engineering Technology and Applied Sciences & Technology, include concentrations in Construction Management, Architecture, Civil Engineering Technology, Electronics Engineering Technology, Energy Engineering Technology, Manufacturing Engineering Technology, and Technology/Engineering Education.

With an estimated 90% of graduates from these programs living and working within the region, officials said this support will help to ensure a career-ready, highly skilled technological workforce in Central Massachusetts.

FITCHBURG STATE UNIVERSITY

TOP GRADS HOPEFUL FOR THEIR FUTURES



COURTESY OF FSU

Paul A. Thibodeau, a Royalston resident, is set to receive the Graduate Student Leadership award from Fitchburg State University.

College honors student accomplishments even though in-person graduations postponed

By Daniel Monahan

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FITCHBURG » Fitchburg State University may have postponed its in-person commencement ceremonies, but members of this year's graduating class said on Wednesday they are proud

of their accomplishments and hopeful for the future.

Stanley Louis Choruzek, of Lancaster, is this year's valedictorian after earning a bachelor's degree in computer information systems.

Choruzek, a Marine Corps veteran, was unable to be deployed because of an injury suf-

fered during training and instead turned his attention to his family and education.

A full-time father, he graduated from Mount Wachusett Community College in 2017, and started attending classes at Fitchburg State.

"I've been searching for knowledge," he said. "I've just

been loving learning, with every class, every professor."

Choruzek said he wants to transfer his new degree into a career in cybersecurity.

"That drive to be on the front line has never left me," he said. "I wanted to protect our citizens and now I want to be on

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Scholar

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those virtual front lines and be part of that team that is protecting us. It gives me fuel to move forward with my career when I see hackers interfere with our social networks or elections.”

Choruzek will address his fellow graduates when Fitchburg State holds its in-person ceremony.

Paul A. Thibodeau, a Royalston resident, is set to receive the Graduate Student Leadership award from the university.

Thibodeau is completing a master’s degree in counseling and says he’s faced many challenges in life.

After years of drug and alcohol addiction, he has been sober for nearly 25 years and is now committed to helping others.

After completing his undergraduate degree in human services from Fitchburg State in 2015, Thibodeau continued his studies at the graduate level in the hopes of building a career in counseling.

Those plans were interrupted after a car crash in 2017.

“I was on my way to class when the accident happened,” he recalled. “On a night like that I would have normally taken my motorcycle, but my car was looking so slick, I took that ... Had I been on my motorcycle I’d have been crippled or left for dead.”

The collision shattered his femur and left him with a traumatic brain injury.

Thibodeau said he’s had many challenges but he’s been able to overcome them, and now his purpose is to help people overcome their adversities.

He now works as a counselor for the Massachusetts Opportunity Council and looks forward to getting his own license to practice on his own.

“I have a certain level of empathy and experience that helps me to be a better observer and a better



COURTESY OF FSU

Stanley Louis Choruzek, of Lancaster, is this year’s valedictorian for Fitchburg State University after completing a bachelor’s degree in computer information systems.

counselor,” he said. “My job as a counselor is not to fix people. I like to say I’m doing God’s work, not God’s job. It’s exactly what I hoped for.”

Fitchburg resident Natalie Aguilar graduates from the university with a bachelor’s degree in business administration, but the moment bears an even greater significance for her.

Aguilar, the daughter of two Peruvian immigrants, is the third of three children to attend Fitchburg State and graduate with a degree in business.

“I tried my best for (my parents) because they didn’t have the opportuni-

ties that I have now,” she said. “Coming from a family that started off with little to nothing, and now having three children graduate college is huge.”

Aguilar said her father feels like he’s graduated because his children all succeeded in doing so.

“My journey wasn’t the smoothest starting out but with the support of my family, and having in my mind that my parents came here, it made me push myself,” she said.

When she first arrived at Fitchburg State, Aguilar was determined to start her career in the education major, but after a year in the program, she

found her home in business administration.

As a full-time student commuting and working a part-time job, there were times when Aguilar said she felt lost or unsure of things. But she persevered.

She encouraged incoming students to persevere, try new things, and to get out of their comfort zones. “Be open to new opportunities and new things,” said Aguilar. “This online learning wasn’t for me at first. But once I gave it a shot and dove deep into my classes, it really helped me out.”

Aguilar graduates with her acceptance into the

MBA program at Fitchburg State University where she intends to continue her education in the fall.

Kajahna Matos, of Lawrence, graduates with a bachelor’s degree in political science and is the first in her family to attend college.

With a concentration in American government, Matos hopes to turn her knowledge into a tool to help her community in the future.

“I wanted to go into something my community typically doesn’t get to,” she said. “I am from a Hispanic background and it was really important for me, coming from that minority community and being a woman, to kind of break that barrier.”

Matos described her time at Fitchburg State as amazing, even adding that she never felt closer to a college campus.

“They make you feel like a family there,” she said.

Degree in hand, Matos plans on attending law school at UMass Dartmouth in the fall and hopes to practice law someday soon.

While her final months at the university were different than she had expected, and the graduation ceremony has been pushed back, Matos said she was hopeful for the future and encouraged other students to keep their heads up.

“Be hopeful,” she said. “This kind of time in the world is only temporary. There’s always light at the end of the tunnel ... and I hope people become more hopeful and optimistic for their futures.”

Fitchburg State’s graduate school commencement ceremony would have been today and the undergrad ceremony would have been Saturday.

The university is actively planning different scenarios of in-person ceremonies for later this year, knowing that guidance from state and public health authorities will play a major factor in what form these ceremonies take.

LOCAL NEWS

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FITCHBURG STATE UNIVERSITY

Accreditation reaffirmed for FSU's Business Administration

Submitted Article

The Board of Commissioners of the International Accreditation Council for Business Education has announced that

Fitchburg State University was granted reaffirmation of accreditation of the business and management programs offered through its Business Administration Department.

"This is another great exam-

ple of our faculty's commitment to a rich learning experience reinforced by the highest standards in the discipline," FSU Dean of Business and Technology Keith Williamson said.

"The accreditation process focuses on continuous improvement for excellence in business education, and advancing academic quality in the department's programs and operations," added

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FSU

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Business Administration Department Chair Renee Scapparone.

The Business Administration Department at FSU has undertaken a rigorous self-evaluation; has undergone a comprehensive, independent peer review; and has demonstrated compliance with the following Accreditation Principles of the IACBE: Outcomes Assessment; Strategic Planning; Curriculum; Faculty; Scholarly and Professional Activities; Resources; Internal and External Relationships; International Business Education; and Educational Innovation.

In addition, the Business Administration Department has demonstrated a commitment to

continuous improvement, excellence in business education, and advancing academic quality in its business programs and operations.

FSU's Business Administration Department offers undergraduate concentrations in accounting, management, and marketing, as well as a robust MBA program.

The MBA offers on-campus options including specialties in accounting, management, and human resources management, in addition to 100% online options that also include healthcare management. To learn more, visit [fitchburgstate.edu](https://www.fitchburgstate.edu).

The International Accreditation Council for Business Education was founded in 1997 and is nationally-recognized by the Council for Higher Education Accreditation.

LOCAL NEWS

FITCHBURG STATE

MBA program hailed by state

Submitted Article

FITCHBURG » Fitchburg State University's MBA program is the largest majority-female program in the state for the second year in a row.

The Boston Business Journal recently published its list of the largest MBA programs in the state. Fitchburg State, which offers in-person and accelerated online MBA programs, ranked

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MBA

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5th in the state for overall size. It's also the largest program for whom a majority of students — 54% — are women.

Professor Beverley Hollingsworth chairs Fitchburg State's MBA program and said she has always been impressed by the statements of intent in their applications.

"A majority of applicants pour their hearts out with gratitude for the opportunity ... to fulfill their dream of achieving an affordable quality MBA," she said. "I believe the program attracts more females because women in general see themselves as the matriarch and guardian of family values and desire to position themselves as a nurturing role model for their children and other family members to emulate."

Eman Warraich-Gibson, a 2019 graduate, works as chief clinical officer at Integrity House, the largest substance use treatment program in the state of New Jersey. She was looking for an MBA program that she could balance with a challenging career and the demands of a young family.

"I knew instantly this was the program for me:

100% online, a curriculum my impulsive mind could squeeze into one year, and affordable," she said. "With the support of my husband, I enrolled and started my first class in March 2019 and a year later graduated with a 4.0 GPA."

Gibson, who was recognized with the university's Graduate Student Leadership Award at her graduation in December, said she found the curriculum immediately relevant to her work at Integrity House.

"The knowledge I gained from the faculty and my classmates is immeasurable and most applicable to the real world," she said.

Fitchburg State Dean of Graduate and Continuing Education Becky Copper Glenz said the university's MBA offerings — with specializations in accounting, health care management, human resources management, or management — are designed to support students on their terms.

"The Fitchburg State Online MBA program provides the flexibility students are looking for in the timeframe they need and allows students to apply what they learn directly to their daily work, which helps to broaden their experience and provide opportunities for advancement," she said.

To learn more, go to fitchburgstate.edu/mba.

COVID-19

LOCAL EXPERTS: PLEASE KEEP YOUR DISTANCE



PHOTOS BY JULIA MALAKIE / LOWELL SUN

Registry of Motor Vehicles security officers from Internal Security Association keep social distancing in effect in the line outside the Lawrence RMV, one of eight RMV offices open, and only by appointment. Jacqui Barnes of Wakefield, in mask, left, who needed to re-register her car, talks to an officer.

Social separation called our best defense at present

By Meg McIntyre

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LOWELL » In the face of a global pandemic of COVID-19, officials are urging citizens to practice social distancing by staying home, avoiding gatherings and maintaining a minimum six-foot distance from others when they do go out.

But if social media posts are any indication, some are skeptical of the necessity of these precautions — an attitude experts are warning could substantially decrease the effectiveness of the measures.

The Sun spoke to local experts Benjamin Levy, assistant professor of mathematics at Fitchburg State University, Jennifer Nicoloro, clinical assistant professor and director of the undergraduate medical laboratory science program at the University of Massachusetts Lowell, and Laura F. White, associate professor of biostatistics at Boston University, about the importance of social distancing and what it should look like at this point in the coronavirus crisis.

How does social distancing help combat the spread of COVID-19?

Nicoloro and White said that scientists look at infectious diseases in terms of a measure called R0, which represents

DISTANCE » 5A



Terry Moran of Westford, left, waits in line to renew his wife's car registration, as Andy of Medford, center (who didn't want to give his last name), checks in with an RMV employee who was checking people's appointments.

Distance

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how many people, on average, a person with the virus will infect. In the current outbreak, that number is thought to be roughly two to three people.

But the number isn't set in stone — it can be lowered by limiting contact with others, and the goal of social distancing is to reduce the rate by as much as possible, they said.

Practicing social distancing by staying home likely won't affect the total number of cases that will emerge, but it can spread them out over a longer stretch of time, reducing the immediate burden on medical facilities that are facing a shortage of intensive care beds, ventilators and personal protective equipment.

"The social distancing measures will slow the rate of the spread of infection so that hospitals can have a more manageable number of patients to care for, just over a longer period of time," Nicoloro said. "This may sound silly, but it is the difference between doctors having to make war-time decisions on triaging sick patients and determining who to treat, and who not to treat."

She noted that the coronavirus that causes COVID-19 is a "novel" virus, meaning that until now, no human had ever been infected and, as such, all are susceptible to it. Slowing the spread and limiting physical interaction helps protect those most vulnerable, such as the elderly and those who are immunocompromised, from coming into contact with the virus, she said.

Levy, whose past re-

search has focused on modeling infectious diseases, said interventions such as social distancing are typically based on mathematical models that look at the spread of the disease and examine how different factors could affect the potential outcomes. He compared such a spread to the spread of a forest fire.

"If you wanted to have a fire, you need two things: You need heat and fuel. Well in a disease situation, the fire is the disease, and the wood would be people who are not sick," Levy said. "... The way you put out a fire would be to extinguish the flames, is one option, so that would be likened to a vaccine or some kind of cure. Or, another way you can put a fire out is by separating the fuel from the flames."

White emphasized that at this point, removing the fuel by social distancing is really the only effective countermeasure available.

"The less contact you have with other people the less likely you are to infect other people or be infected, and that generally helps to really start bringing that (R0 figure) down in absence of a vaccine or other treatment strategies, which we just don't have right now," she said. "That's kind of our only tool we have."

Are strict social distancing recommendations an overreaction?

The short answer from the three experts: No.

White said everything we know about the virus so far indicates that communities must do everything they can to help limit the spread, and said that we likely won't start to see the effects of the interventions that are already happening for several weeks.



JULIA MALAKIE / LOWELL SUN

A security officer relays instructions on social distancing outside the Lawrence RMV.



Levy

"I think we need to look at Italy, we need to look at the kind of measures China's had to take to appreciate this is really serious. And like I said, I hope like crazy we have completely overreacted. That would be wonderful news," White said. "But I don't think we are."

When thinking about social distancing, Nicoloro said it's important to keep in mind that some who contract the virus are asymptomatic and may not be aware they are capable of spreading it, especially because the virus' incubation period is "upwards of 14 days."

She stressed that people should follow the guidance of doctors and public health officials who are trained for the current situation.

"I have personally seen

many people guilty of not taking the social distancing measures seriously, which is, quite frankly, selfish and dangerous," Nicoloro said. "A cavalier attitude about the measures, particularly those that have the attitude that it won't affect them too seriously, and will be nothing more than a bad cold, is dangerous because normal behavior and interactions with multiple people almost guarantees that people harboring the virus will spread it unknowingly to others and the environment."

Levy also pointed to his previous research on the spread of Ebola, noting that early projections indicated there could potentially be about 1.4 million cases of the illness worldwide within a few months. This resulted in ramped up response efforts, and far fewer cases ultimately emerged than had been projected, he said.

"All that hubbub, all that

commotion that was made from the projection, in my opinion, really contributed to the reduction in the cases from 1.4 million to 29,000," Levy said. "So these kind of, what might be perceived as overreactions can also be really important in (controlling) spread of the disease."

So what should social distancing look like at this point?

President Donald J. Trump has already urged citizens not to gather in groups of 10 or more and Gov. Charlie Baker has issued a stay-at-home advisory, but some are wondering if they can still safely visit each other or gather in smaller groups.

From Nicoloro's view, it's safer to stay in unless going out is absolutely necessary.

"If people do not need to



White

go outside for any reason, they should simply stay at home," she said.

"It is reasonable to pick up essential items like food or medications, but otherwise people have no business being out of their homes. Many cities in the U.S. are already telling their populations to 'shelter in place!'"

According to White, if you do choose to see others in person, it's safest to do so outdoors and maintain the recommended six-foot distance. The general guidance is to spend time with family and friends via phone calls and video-conferencing rather than visiting each other's homes, she said.

"I think a term people are using that I like is rather than saying social distancing, let's just say physical distancing," she said.

"We need to keep our social ties up, but we need to keep the physical distance."

White acknowledged that this physical separation can come with feelings of isolation or loneliness, and while dealing with those emotions isn't her area of expertise, she noted that modern technology has given us more ways to connect than ever before — and we should utilize them.

"I think contrasting to 1918, really the only other pandemic we can look at that looks kind of comparable in scope to this, people were a lot more isolated then. It was very devastating. And I think we have the benefit now, we do have ways to stay in touch," she said. "That's really important."

More information about social distancing and combating the spread of COVID-19 is available at www.cdc.gov/coronavirus.

FITCHBURG

TEMPORARY MORGUE SET UP AT FSU ARENA



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Workers cover fencing with a green tarp around the Carmelita Landry Arena at the Wallace Civic Center at Fitchburg State University Wednesday. The arena is being converted into a temporary state mortuary in light of the ongoing coronavirus pandemic.

Worcester County braces for rise in coronavirus deaths

By Daniel Monahan

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FITCHBURG » With a State Police

mobile incident command center parked out front, several workers erected temporary fencing around the Carmelita Landry Arena at the Wallace Civic Center early Wednesday morning.

It was the first step in an effort by the Office of the Chief Medical Examiner to create temporary mortuary services

and to prepare Worcester County for COVID-19 deaths, according to a spokesman with the OCME.

“While OCME currently has sufficient capacity for its needs, our contingency plans include supporting the continued operation of mortuary services by providing increased short-term capacity for cities, towns, and

medical facilities if necessary,” said OCME spokesperson Jake Wark.

The medical examiner’s surge planning involves staging temporary mortuary trucks at Landry Arena in the event of increased deaths or decreased mortuary services,” said Wark.

According to Wark, hospital

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Mortuary

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mortuary space varies widely across the state and the staging area, if needed, can act as a bridge between health care facilities and funeral homes and crematories.

"This will allow mortuary service providers to keep their services operating in a way that's safe for staff and respectful of each decedent," he said.

Remains will be contained within the trucks according to OCME protocols and will pose no health risks to the surrounding area and residents.

Temporary morgues are recommended in CDC guidance and are being utilized in New York, London, and other locations as a necessary public health strategy to maintain sanitary conditions at hospitals and other facilities.

In a statement, Mayor Stephen DiNatale said Fitchburg State University, the city's police and fire departments have been working with Massachusetts Emergency Management Agency and the OCME to host contingency plans, including the operation of mortuary services.

"This temporary facility will provide increased short-term capacity for cities, towns, and medical facilities, if necessary in the



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A worker puts orange netting around a metal fence at the Wallace Civic Center in Fitchburg where a temporary state mortuary is being readied.

event of an increase in decedents or a decrease in the mortuary workforce," said DiNatale. "The public health benefits will save lives here and across Massachusetts."

DiNatale also said MEMA had previously identified the civic center as an ideal area for staging emergency operations.

Wark said mortuary services in the state handle about 60,000 deaths in an average year. The staging area will ensure the con-

tinued operation of those services in the event of an increase in deaths or a decrease in workforce that would otherwise contribute to unsanitary conditions.

It is unclear at the moment how many people will be staffed at the center, but it would depend on the amount of use that it gets.

Ward 4 City Councilor Andy Van Hazinga told residents via social media that he was comforted to see

the state conducting operations at the civic center.

"The truth is that we don't know how bad this will get, but we have to be prepared," said Van Hazinga. "The important point to take away from this is that our state's emergency management agencies are actively responding to a public health crisis that is unprecedented in our lifetime."

DiNatale was set to address residents on FATV at 5 p.m.

Trump considers travel limits

WASHINGTON » President Donald Trump said Wednesday that he is weighing grounding domestic flights between coronavirus hot spots as he ramps up efforts to try to contain the pandemic's spread.

"We're thinking about doing that," Trump told reporters at a White House briefing, a day after he warned the nation to brace for a "hell of a bad two weeks," with 100,000 to 240,000 coronavirus deaths projected, even if current social distancing guidelines are maintained.

Limited flights continue to run between cities like New York and Detroit, though passenger counts have plummeted across the nation. The Transportation Security Administration screened just 146,348 passengers Tuesday, down from 2,026,256 the same day last year.

Nonetheless, Trump said he was looking at new restrictions, even as he voiced concern about the impact on already-struggling airlines, saying that, once you do that, "you really are clamping down" on "an industry that is desperately needed."

Trump, however, offered mixed messages during the briefing.

He seemed to suggest

that he was looking to temporarily ground all domestic flights, saying, "We're looking at the whole thing because we're getting into a position now where we want to do that, we have to do that ... and we may have some recommendations."

But pressed later on whether that was his intention, he said he was thinking of something less restrictive. "I am looking where flights are going into hot spots," he said. "Closing up every single flight on every single airline, that's a very, very, very rough decision. But we are thinking about hot spots where you go from spot to spot, both hot. And we'll let you know fairly soon."

Trump also said he was considering similar restrictions on train travel, while claiming, incorrectly, that anyone boarding a plane or train is currently subjected to "very strong tests for getting on, getting off."

Trump in the past has said he was reluctant to ground flights because of challenges in getting the system back up and running once the threat posed by the virus fades.

"When you start closing up entire transportation systems and then opening them up, that's a very tough thing to do," he said.

OPINION

AS I SEE IT

COVID-19 complications (in testing)

By Sean Rollins

With regards to COVID-19, much of the information we receive is an oversimplification of a very complex issue. Diagnostic testing is a critical component of any effective COVID-19 response. Before we can get back to any sense of normalcy and open society for business, effective testing is needed.

The bad news is that no common medical diagnostic test is perfect. Test results are not simply positive or negative. People who are truly positive for the infection could be incorrectly identified as negative. Good diagnostic tests might be 95% accurate. That means, if we let 20 people identified as negative into our place of business, one of those people could be infected.

There are two general types of tests being used. Direct testing, looking for the virus “directly” within a nasal swab; and antibody or “indirect” testing, looking for an immune response in the form of antibodies. The assumption is that if you have antibodies against the virus, you have the infection. There are advantages and disadvantages for each type of test.

Coronaviruses use RNA as their genetic material. HIV, influenza and Ebola are examples of other RNA viruses. RNA is an infamously unstable molecule; it breaks down easily. Direct tests are looking for this unstable RNA that breaks down quickly, making it harder to find. To complicate matters, human skin contains enzymes that breakdown RNA as part of your innate immune system, protecting you from viruses. How you collect your swab and how long it sits before processing become factors in your testing accuracy.

Dr. Birx, the coronavirus response coordinator for the Trump Administration, recently commented that antigen testing would be a “breakthrough.” This type of testing is similar to a flu swab or a rapid strep test; instead of detecting the RNA, look for a protein that is unique to the virus. The caveat is that we all have been previously infected with other coronaviruses; it is a frequent cause of the common cold.

In immunology, this is called cross-reactivity. Antibodies can respond to protein that looks similar to other proteins that we have seen before. You have to find the protein (or at least a small region of a protein) that is unique to COVID-19 but looks significantly different from

other coronaviruses.

Another critical factor is how much RNA is present at the time of testing; referred to as viral load. Right after infection, the amount of virus in a nasal swab is low, unlikely to be detected. It takes several days for the number of virus particles to accumulate to detectable levels. People are likely to be walking around in the early stages of infection, potentially shedding virus, with a negative diagnostic test. A mouse model indicates that the virus replicates within 1-2 days of infection suggesting the virus could be shed early during human infection.

Antibody production also takes time and there are different types of antibodies. The earliest antibody response is typically 3-5 days after infection. IgM antibody is the body’s equivalent of a first responder but it isn’t the most prevalent blood antibody. IgG is the most prevalent antibody but takes longer to develop. IgG antibodies can start showing up five days after infection and peak between 7-21 days post-infection. Again, there is a significant lag between initial infection and diagnostic detection. A recent study suggests COVID-19 patients produce significant quantities of antibodies 11-12 days after infection. This same study also indicated that only 80% of patients produced IgG antibodies, although 100% of patients produced some type of antibody.

One advantage of an IgG antibody test is that it could serve as an indicator for future immunological protection. The immune system produces cells that retain memory from past infections and respond quickly to subsequent exposures. IgG is a critical neutralizing antibody; it coats the virus and blocks it from infection. It would be terrific to know that if you produce a high titer of IgG, you are protected from future infection but the science is not there.

Injecting COVID-19 patients with antibodies from a patient with a previous infection (plasma therapy), has been shown to be an effective experimental treatment. For this reason, protective immunity looks promising, but the length of time for protection is unclear and based on studies of other coronaviruses, immunological memory is not as long as seen with most infections. Scientists are also attempting to produce synthetic antibodies, which is a promising therapy option.

There are a number of additional complications associated with

antibody testing. There are reports of patients experiencing reinfection. If you already have antibodies from a previous infection, how do you know if a patient is re-infected? Another significant population of patients are immunocompromised. We are all familiar with AIDS but there are a number of conditions that reduce one’s ability to produce antibodies. Cancer treatments, being a transplant recipient or even pregnancy can suppress the immune system.

Finally, and this applies to antibody and direct testing, diagnostic testing is a one-size-fits-all approach; which is not reality. We all have different diets, sleep, exercise, age, weight, other illnesses such as diabetes, asthma, heart disease, etc. We are also infected with a different number of virus particles. Every infection is different; a patient’s immune response and the virus’s ability to reproduce varies. Immunity passports have been proposed as a mechanism to allow individuals to go back to work. These passports will only be good as the diagnosis accuracy and frequency of testing.

Testing right now is kind of the wild-west; states and regions are doing their own thing. Standardization across state lines will help in the collection and analysis of data to make the most informed decisions moving forward. The ideal scenario would be to use both nasal swabs and antibody testing, but testing capabilities are limited. It is critical to understand that good testing is not the golden ticket to end this pandemic. Testing, vaccination, herd immunity and therapies are needed to fully deal with the pandemic. The best option to resolve this crisis as quickly and painlessly as possible, will require partnerships between the federal government, international organizations, states, commercial entities and end users.

Sean Rollins, Ph.D., is an associate professor of microbiology at Fitchburg State University and a adjunct assistant professor of biology at MCPHS University. He taught microbiology labs at Harvard Medical School for 10 years and earned a Ph.D. in microbiology from The Ohio State University. He did his post-doctoral fellowship in infectious diseases at Massachusetts General Hospital and a second post-doctoral fellowship in biological chemistry and molecular pharmacology at Harvard Medical School.

LOCAL NEWS

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FITCHBURG STATE UNIVERSITY

Lapidus: Congrats Class of 2020

Staff Report

FITCHBURG » This week Fitchburg State University concludes the 2019-20 academic year, conferring 559 undergraduate degrees and 379 graduate degrees to students from more than 30 states and countries around the world.

President Richard S. Lapidus saluted the Class of 2020 in a letter this week.

“You have been thrust into unimaginable circumstances, with the expectations for your final semester completely upended with barely a moment’s notice. And yet, you have endured. You have risen to the challenges that confronted you, and overcome them to arrive at this milestone.

“Be proud of what you have accomplished, for it is no small feat. Even in the best of times, the completion of your college degree is a journey rightly filled with difficulty – which is, of course, part of what makes it worthwhile. Finishing a degree means working successfully under pressure, challenging one’s limitations and broadening your horizons in pursuit of a lofty goal.

“You arrived at this moment thanks to the dedication of a talented faculty, whose own lifelong commitment to their disciplines has been shared with you in their classrooms and laboratories during your time here. And our committed university staff have provided you the tools to learn and be supported through these extraordinary times.

“Our entire community is

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Congrats

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disappointed that we cannot celebrate your achievement in person just yet, but know that we will do so as soon as it is safe.

"For the accomplishments of the Class of 2020 are many, and deserving of respect.

"Congratulations, be well, and we will see you soon."

Fitchburg State University Graduation List for Spring 2020

Ashburnham: Amanda M. Allenm, MBA, Business Administration; Rachel Bousquet, MBA, Business Administration; Cassidy E. Caouette, BS, Sociology; Nicole J. Dancause, BS, Human Services; Sam B. Davidson, BSE, Elementary Education 1-6; Jacob P. Janssens, BS, Computer Science; Ariana M. LeBlanc, MS, Counseling; Travis W. Stewart, BS, English Studies; Kai J. Wilson, BS, Political Science

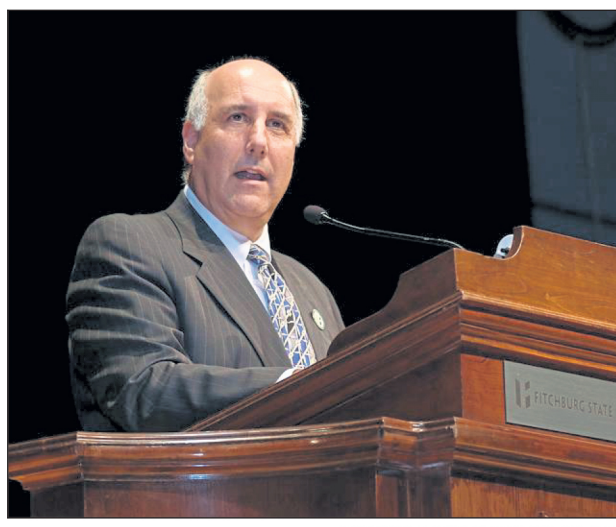
Ashby: Suzanne M. Carter, MED, Early Childhood Education; Heather E. Drummond, BS, Nursing - BS; Katherine L. Meehan, MBA, Business Administration

Ayer: Meghan E. Lewis, MED, Elementary Education 1-6

Fitchburg: Marissa S. Abell, BSE, Elementary Education 1-6; Natalie N. Aguilar, BS, Business Administration; Ana G. Aguilar, BS, Exercise and Sports Science; Savannah D. Alansky, MS, Counseling; Elisa S. Alves, BS, Biology; Courtney R. Aulden, BS, Environmental & Earth Science; Mallory T. Babineau, MED, Early Childhood Education; Matthew J. Badagliacca, BS, Political Science; Austin P. Bell, BS, Psychological Science; Alexander J. Blinn, BS, Chemistry; Emily S. Capone, MED, Special Education; Jeremy O. Castillo, BS, Chemistry; Emily A. Celona, BS, Communications Media; Vikki T. Chartrand, MBA, Business Administration; Reem E. Chniouli, BS, Psychological Science; Sadiya M. Clark, BS, Nursing, RN to BS; Daniel P. Clifford, BS, Human Services; Alexander P. Cochran, BS, Mathematics; Kelsey M. Comis-

key, BSE, Early Childhood Education; Cassandra C. Cook, MAT, English; Savannah R. D'Agostino, BS, Psychological Science; Kristal E. Dalbec, MBA, Business Administration; Madison J. Davick, BS, Biology; Gabriana J. Dickerson, BA, Psychological Science; Molly K. Donnelly, MBA, Business Administration; Jason J. Dwyer, BS, Comp Info Systems; Jean M. Fisher, MBA, Business Administration; Julie E. Fluet, BSE, Early Childhood Education; Joshua R. Folmer-Lafleur, BS, Criminal Justice; Vanessa C. Foote, BS, Business Administration; Ryley M. Forwood, BS, Game Design; Ernan Galindo, BS, Environmental & Earth Science; Alexandria K. Gallagher, BSE, Early Childhood Education; Johanna E. Garcia, MED, Curriculum and Teaching; Carrie Grossi, BS, Nursing, LPN to BS; Jeanette A. Hall, MS, Counseling; Grant H. Jensen, BS, Criminal Justice; Carissa S. Kushmerek, MBA, Business Administration; Mary A. Lavelle, MS, Applied Communication; Carly E. Leblanc, BS, Nursing - BS; George C. Ledoux, BS, Nursing - BS; Di Lin., BS, Computer Science; Katelyn M. Lingus, BS, Business Administration; Cory Lo, BS, Industrial Technology; Ashley E. Mason, MED, Curriculum and Teaching; Jefferson J. Massillon, BS, Exercise and Sports Science; Kobi A. Namsaly, BS, Business Administration; Karin A. Penski, BS, Nursing, LPN to BS; Christi E. Pike, BS, History; Molly T. Potter, BS, English Studies; Ana K. Rodriguez, MBA, Business Administration; Natasha M. Rodriguez, BS, Human Services; Kyleen Roman, BS, Business Administration; Reinardo Rosario, BS, Biology; Danielle C. Samarjian, BS, Industrial Technology; Jennifer M. Senecal-James, MED, Occupational Education; Bethany M. Silveroli, BS, Interdisciplinary Studies Educ; Michael K. Smith, MED, Special Education; Daniel J. Valera, BS, Criminal Justice; Marie Vante, BS, Human Services; Der Yang, BS, Communications Media

Lancaster: Victoria K. Atkinson, MED, Early Childhood Education; Maura O.



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Fitchburg State University President Richard Lapidus.

Bailey, MA, English; Stanley L. Choruzek, BS, Comp Info Systems; Laura P. Croteau, MBA, Business Administration; Fagan R. Forhan, MS, Applied Communication; Stephen J. Nagle, BS, Industrial Technology; Katelyn E. Turk, BS, Exercise and Sports Science

Leominster: Guelmari Alvarado, BS, Business Administration; David R. Barry, BS, Business Administration; Nicholas V. Benincasa, BS, Business Administration; Victoria G. Bisceglia, BS, Biology; Julia L. Bonica, BS, Biology; Matthew D. Boucher, BS, Comp Info Systems; Allison Brann, MS, Counseling; Ricardo S. Cabrini Sanchez, MBA, Business Administration; Luis G. Calderon, BS, Game Design; Ryan A. Carter, BS, Criminal Justice; Carissa Ciccone, BS, Industrial Technology; Rosirys Collado, BS, Business Administration; Ashley H. Crank, MBA, Business Administration; Melissa K. Cunningham-Aubuchon, BS, Business Administration; Kimberly M. Dawson, MED, Special Education; Jonathan P. Day, BS, Comp Info Systems; Katie P. Doughty, BS, Biology; Victoria Flynn, MBA, Business Administration; Alexandra M. Foster, BS, Business Administration; Gabriella R. Foster, BS, Business Administration; Paula S. Fuentes, BS, Human Services; Paige A. Giordano, BS, Business Administration; Nicholas B. Girard, BS, Criminal Justice; Jamie P. Goodgion, MS, Counseling; Noelle L. Grudziecki, MS, Counseling; Kari Guilfoil, MED, Special Education;

Andrew W. Harrington, BS, Political Science; Michael E. Harris, BS, Comp Info Systems; Haylee E. Hebert, BS, Nursing - BS; Yahaira Herrarte, BS, Human Services; Andrew P. Jeselson, MBA, Business Administration; Christina Knowles, MS, Counseling; Matilda Kola, BS, Business Administration; Nicholas C. Kostich, MED, Science Education; Rebecca L. Landry, BS, Communications Media; Jill N. LeBlanc, MED, Special Education; Nicholas Y. Manu, BS, Biology; Sharie A. Melendez, BS, Political Science; Brandon Mgeni, BS, Exercise and Sports Science; Perry Ofori, BS, Criminal Justice; Kathryn L. Oldfield, MED, Special Education; Brittny A. Peralta, BS, Business Administration; Matthew J. Philbin, MBA, Business Administration; Samantha K. Prescott, MBA, Business Administration; Devante Proctor, BS, Exercise and Sports Science; Amanda M. Refrigeri, MED, Early Childhood Education; Craig D. Renaud, MBA, Business Administration; Ciara Rodriguez, MBA, Business Administration; Ashley N. Roy, BS, Business Administration; Alina R. Salaiz, BS, Environmental & Earth Science; Yeni A. Salazar, MED, Special Education; Sana Saleem, MS, Computer Science; Nicole F. Salerno, MBA, Business Administration; Lisa M. Sanderson, CAGS, Educational Leadership/Mgmt; Silvana V. Silva, MS, Applied Communication; Nicholas D. Souders, BS, Comp Info Systems; Brittany Terrell, MED, Special

Education; Taylor L. Thibodeau, BS, Business Administration; Emmanuel L. Torres, BS, Biology; Cassidy Vargas, BS, Nursing - BS; Kieley L. Vieweg, BS, Psychological Science; Jacquelyn M. Vokey, BS, Business Administration; Alexandros C. Voyiatzis, BS, English Studies; Danielle E. Waseleski, BS, History; Haven K. Wichelns, BS, Business Administration; Evelyn E. Zimmerman, BS, Human Services

Lunenburg: Brianna L. Babineau, BS, Nursing - BS; Alyssa A. Bulger, MED, Special Education; Tenzin Dhakpa, BS, English Studies; Jarrod M. Haas, BS, Criminal Justice; Michael R. Jeffreys, BS, Interdisciplinary Studies; Meghan E. Landry, MED, Special Education; Lianne M. Leonard, BS, Business Administration; Nicole M. Melanson, BS, Nursing - BS; Melissa L. Michaelides, MBA, Business Administration; Lynette J. Pimentel, BS, Psychological Science; Catherine A. Proctor, MED, Special Education; Eva M. Robichaud-Serrano, BS, Human Services; Lindsey M. Smart, BA, Biology; Suzanne M. Thomas, BSE, Elementary Education 1-6; Aaron L. Verner, BS, Computer Science; Jeffrey Verner, BS, Environmental & Earth Science; Brian K. Walter, BS, Business Administration; Bridie Wolejko, BS, Interdisciplinary Studies; Jennifer A. Panarelli, MA, English; Griffin J. Smith, MED, Curriculum and Teaching

Princeton: Nathan C. Alsdorf, BS, Comp Info Systems; Erin M. Gyles, BS, Psychological Science; Madeline R. Kuntz, BS, Psychological Science

Rutland: Zachary M. Gull, BS, History; Christopher T. Jeffcoat, MED, Educational Leadership/Mgmt; Matthew R. Pingitore, BS, Criminal Justice; Adam R. Richards, MAT, Biology; Timothy E. Sheridan, BS, Sociology

Shirley: Cayla L. Justice, BSE, Elementary Education 1-6; Jamie E. McKenna, BS, Interdisciplinary Studies; Jessica J. Peck, MED, Special Education; Jefflyn Naa Kwarley Quartey, MBA, Business Administration

Sterling: Amy L. Jolly,

MED, Educational Leadership/Mgmt; Glenn E. Rossi, BSE, Middle School Education; Matthew Valyo, BS, Exercise and Sports Science

Townsend: Claire B. Bagley, MED, Curriculum and Teaching; Daniel P. Considine, BS, Comp Info Systems; Brandon J. Durham, MBA, Business Administration; Venessa A. Francois, MBA, Business Administration; Justin M. Girard, BS, Biology; Eamon R. Gosselin, MA, English; Kaitlin M. Hanlon, BS, Psychological Science; Amy E. Lamoureux, BS, Human Services; Francesca J. Lewis, MA, English; Bryanna R. Luongo, BS, Exercise and Sports Science; Erinn B. Melus, BS, Environmental & Earth Science; Erinn B. Melus, BS, Mathematics; Joshua S. Miller, BS, Business Administration; Alexa C. Nogueira, BS, English Studies; Alicia M. Silver, BS, Nursing - BS; Melissa Sullivan, MED, Early Childhood Education; Jessica D. Watson, BS, Business Administration

West Townsend: Keith P. McCarthy, MBA, Business Administration; Rachel Nadworny, MS, Counseling

Westminster: Ashley R. Cournoyer, BS, Interdisciplinary Studies; Kathleen L. Craigen, MBA, Business Administration; Rachael E. DeLisle, BS, Biology; Bryanna N. Hache, BS, Human Services; Melissa F. Hall, MED, Curriculum and Teaching; Samantha R. Ide, BS, Business Administration; Nicholas Lambert, BS, Comp Info Systems; Gregory Lambert, BS, Computer Science; Jennifer A. Mailoux-Rochon, MED, Occupational Education; Allison K. McCann, BS, Criminal Justice; Shannon L. McCarthy, MED, Elementary Education 1-6; Taylor E. Nelson, BS, Nursing - BS; Samuel M. Phelps, BS, Geographic Sci & Technology; Katelyn R. Robbins, BS, Interdisciplinary Studies; Kyle E. Robbins, BS, Chemistry; Gianna J. Slack, BS, Criminal Justice; Claritza L. Taylor, MS, Criminal Justice; Erica Y. Ulrich, BS, Biology; Karin P. Valencia-Bedard, MED, Curriculum and Teaching; Cody T. Walter, BS, Criminal Justice; Brendan M. Winston, BS, Game Design.