



INSTITUTE REPORT

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Anatomy Class Makes Virtual Dissection Possible

By Mary Price

This fall, cadets are using a new tool that could only have been seen as science fiction when their parents were growing up.

The Anatomage Table, which is meant for study of the human body and virtual dissection, is “kind of like a giant iPad,” explained Darren Ostrander ’20, one of the first cadets to use the table. Ostrander, along with five other cadets, is enrolled in Col. Mike



Cadets in Col. Mike Krackow's PE 274 class, human anatomy, use the Anatomage Table to study a human skeleton.—VMI Photo by Kelly Nye.

Krackow's PE 274 class, human anatomy.

“It's a small class, which is nice for the first time,” commented Krackow, adding that he hopes interest in the class will grow as time goes by. Already, he's heard from several cadets that they'd like to take the class, but it didn't fit in their schedules.

An anatomy class, said Krackow, “complements the exercise science minor,” which has been in existence at VMI for approximately five years now. Krackow

See Anatomage Table, page 16

Rat Challenge Returns to House Mountain

By Kelly Nye

After a one-year location switch to Brushy Hills Preserve, the physical education department has returned to House Mountain for one of the most physically demanding stations of the Rat Challenge training program.

It was a welcome move, considering VMI and the mountain's long history together.

One of the very first experiences of the Rat Line is a hike to the top of Big House Mountain. But Rat Challenge offers rats a much faster, more exclusive trail to the summit of Little House.

Despite the name, Little House Mountain is the more arduous of the two hiking experiences. And according to Col. Jay Johnson, professor of physical

education and director of Rat Challenge, it may even be the most physically demanding event of the program.

“It's a straight up hike, very physical,” said Johnson. “It is absolutely the most physical challenge of Phase One [of Rat Challenge].”

See House Mountain, page 4

Cadet Spends Summer at New Market

By Molly Rolon

On a sunny August morning, speaking over the ever-present Interstate 81 traffic interspersed with the shouts of young day campers, contagiously cheerful Cadet LeAndrew “Drew” Jefferson ’21 explained that he spent the summer living in the Bushong house, and initially didn’t realize he would be the sole cadet working—and living—at the battlefield.

Last spring, he was selected from a pool of applicants for the Shaara Scholar Internship. The program, endowed by novelist Jeff Shaara in 1999, is administered through the VMI Museum System. Cadets apply each spring, and the internship is awarded to one cadet who then spends the summer as a jack-of-all-trades assisting the staff at the New Market Battlefield.



Drew Jefferson ’21 poses in front of the Virginia Museum of the Civil War in New Market.—Photo courtesy of VMI Alumni Agencies.

The Bushong house has many modern amenities, Jefferson said, but air conditioning is not among them. The house does have a modern kitchen, plus a washing machine, dryer, indoor plumbing, and bathroom facilities.

Each morning, after sleeping until 8 a.m.—or, as Jefferson called it, “as late as possible”—he donned his uniform and began opening the museum. After completing this morning routine, Jefferson’s days followed manifold paths. Some days, he assisted with museum research. Others found him washing windows, setting up tents, or teaching day campers. Nearly every day, he gave tours. When he tried to explain the Shaara Scholar Internship to his parents, they asked, “What are you? A curator? A janitor?”

Jefferson’s reply to them? “I am all that.”

The Shaara Scholar Internship, which includes a \$4,000 stipend, met needs on several fronts for Jefferson. An international studies major with interests in history and an innate curiosity for learning, he applied for several internships last spring. Internships, however, tend to be low-to-no-paying positions. “I realized I had to get real

and start applying to grocery stores, or McDonald’s,” he smiled. Learning that he was selected as the 2019 Shaara Scholar solved the issue of earning wages, while allowing Jefferson to continue to grow in both general and VMI-specific knowledge, as well as learning the fundamentals of museum operations.

Giving tours occupied a large chunk of Jefferson’s time. He was well-rounded in the New Market battle. “There are three tenets of being here: You want to know about the Bushong family, the cadets who participated here, and the town of New Market. Those can give you three basic legs to have a better understanding of the battle.”

Grinning, he said he quickly learned to ask if there were any history teachers or professors in the tour group. “You want to make sure you’re solid—because you never know who you’re going to be giving a tour to.”

Becoming more serious, he noted that he is acutely conscious that he was a living, breathing representative of the Institute. And, due to circumstances entirely beyond his control, people on his tours found him intriguing.

“When people come here, they have a lot of questions: An African American cadet, his name is Jefferson ... and he’s at the Virginia Museum of the Civil War,” Jefferson said. “This is a good way to bring a different perspective into the lessons and the truths of this battle, and of VMI as well. It’s critical that I take the right steps in discussing history and discussing how it relates to today, especially at VMI.”

Leading a somewhat “monkish” existence—the Bushong house also lacks Wi-Fi—was beneficial, Jefferson said. Being alone gave him time to “learn history and get the story right. And not only get it right, but I don’t have to go to Twitter or Snapchat.” He spoke to hundreds of people each week, and simply told them “the truth” and “history.”

“That makes huge impacts on people,” Jefferson said. He has received letters, thank-you cards, books—and even the occasional \$20 stuffed into a handshake. The latter were promptly re-stuffed—into the donation box at the visitor center.

During the academic year, nearly every waking minute of a VMI cadet’s time is accounted for on a matrix. Having an immense amount of free time, much of it alone, was “a good lesson,” Jefferson said, noting that he has experienced “the best of both worlds,” with highly regulated time while at VMI, and the chance to put time management skills to use over the summer.

Jefferson brings his summer lessons learned to the Corps, where he is now a sergeant, as well as being part of both the Cadet Superintendent’s Advisory Board and the remedial PT staff. He is contracted to commission in the Marine Corps when he graduates in 2021, would like to pursue advanced degrees in political science, and perhaps teach at the college level. ❀

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Header photo on page 1 by
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Faculty Appointments Announced

By Mary Price

At its September meeting, the VMI Board of Visitors approved changes to faculty and staff. Among the highlights are a number of new appointments and promotions (see table).

In addition, two individuals have been appointed as visiting scholar chairs for this academic year. They are Col. Dean A. Kershaw, holder of the Wachtmeister Chair in physical science and engineering, and Col. Robert "Bob" James Jr., holder of the Economics-Mary Moody Northern Chair.

Five members of the faculty have been selected as holders of Institute professorships and chairs.

Holding the John W. and Jane M. Roberts professorship in free enterprise business is Col. Barry R. Cobb, Department of Economics and Business. Also holding an endowed chair in that department is Lt. Col. Valentina Dimitrova-Grajzl. She has been appointed to the Nanette & Thomas Watjen 1976 chair in economics and business.

In the Department of International Studies & Political Science, Col. Ryan R. Holston now holds the Jonathan Myrick Daniels '61 chair for academic excellence.

Col. Christina McDonald, professor in the Department of English, Rhetoric, and Humanistic Studies, has been appointed to the Jackson-Hope distinguished chair in humanities.

In the Department of Biology, Col. Richard "Dick" A. Rowe is appointed to the Bruce C. Gottwald Sr. '54 chair for academic excellence.

In the Air Force ROTC, Col. Philip J. Cooper is now commanding officer following the retirement of Col. Steven W. Biggs. 🌸

Name	Position	Department
Maj. Daniel A. Baur	Assistant Professor	Physical Education
Maj. Sara E. Blake	Assistant Director	Career Services
Lt. Col. Michelle Caruthers	Director (<i>promoted</i>)	Physical Plant
Maj. Tiffany S. Chu	Assistant Professor	International Studies & Political Science
Maj. Molly Kent	Assistant Professor	Biology
Maj. Alida R. Laney	Assistant Director	Institutional Research
Maj. Michael A. LaRocca	Assistant Professor	Psychology
Maj. Daniel R. Marshall	Assistant Director, Assessment	Institutional Research
Dr. Timothy J.A. Passmore	Assistant Professor	International Studies & Political Science
Maj. Jamie T. Rice	Psychologist	Center for Cadet Counseling
Col. Wesley Robinson	Director (<i>promoted</i>)	Information Technology
Dr. George E. Schoendorff	Visiting Assistant Professor	Chemistry
Maj. Henry A. Wise III	Assistant Professor (<i>promoted</i>)	English, Rhetoric, & Humanistic Studies

POST BRIEFS

English Professor Wins Poetry Prize

The Adjacent Possible, a manuscript of poems by Lt. Col. Julie Brown, associate professor of English, rhetoric, and humanistic studies, has won the 2019 Hopper Poetry Prize. *The Hopper*, which is an environmental literary magazine published by Green Writers Press, features not only poetry but fiction, nonfiction, visual arts, and ecocriticism, all designed to guide the reader toward a deeper understanding of nature's place in human

life. Brown notes that one of the core learning outcomes for English majors at VMI is for cadets to produce their own creative works, and that by producing and publishing her own work, she is better able to support cadets wishing to do the same. In addition, this summer Brown attended the Sewanee Writers' Conference, which was led by Robert Hass, U.S. poet laureate from 1995-1997.

International Studies Professor Attends UNESCO Conference

Lt. Col. Patrick Rhamey, associate professor of international studies, recently attended the Heritage Revivals-Heritage for Peace UNESCO conference in Bucharest, Romania. Attendees included representatives of governments, international organizations, and universities, all concerned with the protection of cultural and national heritage. Rhamey, who

attended as a representative of a military college from a NATO member nation, explained prior to the conference that his research focuses on major powers, their status, and how that affects state behavior. He was thus hoping to gain insights as to how and why states protect historical/cultural heritage sites in times of conflict.

Department Head Changes Announced

Leaders of two academic departments will count this academic year as their last year in charge. In the Department of Civil and Environmental Engineering, Capt. Ned Riester '78 will step down at the end of this academic year after having served as department head for 11 years and taught at the Institute for 27 years. He will remain a member of the civil engineering department faculty. Taking Riester's place as department head will

be Col. Chuck Newhouse, a member of the VMI faculty since 2008 and holder of the Charles S. Luck Jr. '20 Institute professorship in engineering. In the Department of History, Col. Mark Wilkinson will retire at the end of this academic year after a decade as department head and 27 years on the VMI faculty. He will be succeeded by Lt. Col. Houston Johnson, who has taught at the Institute since 2012. ✱

House Mountain *continued from page 1*

House Mountain consists of two peaks with a sloping area between known as the saddle. At their highest points, the two mountain tops are only a couple hundred

feet apart in elevation. Little House is the iconic view from Lexington and can be seen from the Parade Ground. The ridgeline behind it is Big House. During Matriculation

Week, rats are led to the southern summit of Big House by commandant's staff and cadre via the public trail.

Rat Challenge, which takes place over 10 weeks in the fall semester with multiple stations on and off post, uses a different trail, most of it through private property, to access the northern summit of Little House.

The comparison between the hikes up Little House and Big House is stark. The Little House trail is short but steep, gaining about 1,300 feet over the course of 1.07 miles. The group starts on private property, unlocking a gate to reach the trail head on the eastern slope of the mountain. The private trail eventually meets the public trail near the top. The Big House trail is more than twice as long. Hikers start in the parking area on the southern end of the mountain, then wind through the saddle first, gaining about 1,500 feet overall.

"It is a vertical mile," is how Capt. Katie Baur describes the trek up Little House, adding that it takes the rats 30 to 40 minutes to reach the top. Baur is a PE instructor and one of the faculty members leading the



Company G rats, House Mountain station cadre, and Capt. Katie Baur stop for a photo on top of Little House Mountain's northern summit Sept. 5.—VMI Photo by Kelly Nye.

station. Along with PE instructor Capt. Jim Whitten, she climbs the mountain with the cadets twice a week for the first five weeks of the semester.

"It never gets any easier," added Whitten.

For the public to access the same summit on Little House, the trail is less steep but much farther than the route the rats take. It is approximately four miles from the parking lot, with an elevation gain of about 1,260 feet at the highest point. After climbing to the southern end of Little House, hikers must walk the ridgeline for roughly a mile before reaching the northern summit.

Thanks to a verbal agreement with the landowners that dates back to the late 1960s—during Clark King's tenure in the PE department and the inception of Rat Challenge—VMI has access to the faster trail on the eastern side of Little House. Cadets, VMI faculty, and the landowners are the only ones who have climbed it over the last 50 years.

Last year was the only year the trail didn't see cadets, when the PE department moved the station to Brushy Hills Preserve. The 560-acre watershed tract is owned by the city of Lexington and includes a 14-mile public trail system. But the wooded area offers no clear views, especially in late summer.

"House Mountain is much more of a challenge than Brushy Hills because of how steep it is," said Ethan Severns '21, assistant cadet in charge of the station. Severns and Katie McCommons '21 were also station cadre on last year's Brushy Hills hike.

"I am glad that we are able to do House Mountain over Brushy Hills because I



House Mountain consists of two peaks; Little House can be seen from the VMI Parade Ground.—VMI File Photo by Kelly Nye.

feel a greater sense of accomplishment," McCommons said.

"This has a little more oomph than Brushy," agreed Baur, pointing out the three spots on the trail where it is so steep cadets use a rope to pull themselves up, adding a technical element to the climb.

Unlike Brushy Hills, the cadets provide a service just by using the private trail.

Constant use keeps any trail maintained. And Johnson hopes to get cadets involved in a service project during spring FTX to maintain the trail even more for the landowners.

"Even if they just come for a day to clear trees and limbs, it would help the landowners," said Johnson.

Maintaining the mountain keeps cadets in shape and strengthens VMI's relationship with the community, ensuring that future generations of cadets see the view from the top of the mountain they look at every day. 🌲



Company G rats take in the view from the top of Little House Mountain Sept. 5.—VMI Photo by Kelly Nye.



A Reading from *The Father Box*

John Lane, professor of English and environmental studies at Wofford College, reads from his book *The Father Box* in Pogue Auditorium Sept. 19. Lane collaborated with photographer and VMI associate dean for academic affairs Col. Rob McDonald to publish *The Father Box* in 2018. The collection of essays, poems, and photographs explores Lane's father's life, including his service in World War II, as revealed in a box of artifacts he left behind after he committed suicide in 1959. The reading was sponsored by Sigma Tau Delta, the Dean's Academic Speakers Program, and the Department of English, Rhetoric, and Humanistic Studies.—VMI Photos by Kelly Nye.

Cornerstone Lab Continues to Engage Cadets

By Mary Price

Four years ago, the Department of Mechanical Engineering began a new initiative to help rats majoring in that discipline connect to the fun and challenge of engineering from their first semester on post. Dubbed the cornerstone lab, the initiative's goal was to engage mechanical engineering majors from the start with hands-on projects, so they'd be less likely to switch majors down the road.

Results have been mixed: 4th Class cadets do seem to be staying in the major into their 3rd Class year, but the overall number of mechanical engineering majors graduating is holding steady, according to Col. Gerald "Jay" Sullivan, professor of mechanical engineering and one of the founders of the cornerstone lab.

Cadets, though, are much more capable of creating and following through on their own projects than they once were, Sullivan reports. "What I've observed is that it does get them more engaged," he commented. "By the time they get to be in their senior year, they're really quite capable."

Thanks to instruction by Sullivan and Marco Floyd, engineering technician, use of the machine shop "is much more second nature to them," said Sullivan. "They're not afraid to use the milling machines. They're not afraid to weld."

As the Christmas furlough nears, Sullivan noted, many mechanical engineering majors can now be found in the labs, making Christmas presents for their families and sometimes just taking a break from studying to pursue their own projects—something the department encourages as long as it's done safely.



Cadets watch as Col. Jay Sullivan, professor of mechanical engineering, shows them the circuitry for an Arduino microcontroller. —VMI Photo by Kelly Nye.

"I'll go down to the lab, and there will be 15 [cadets] down there," Sullivan commented. "To me, it's music to my ears because the more you use these things, the better sense you have for how a design can go together. It's building up some virtuosity."

This year, Sullivan is starting off the 15 rats in his introduction to mechanical engineering class with a typical cornerstone lab project: an Arduino robotic shuffle board. Arduino is an open-source electronics platform that allows users to program it easily for a variety of purposes.

"We introduce them right off to the Arduino functions," said Sullivan. Then it's time to add in a pneumatic actuator, a device that converts energy into mechanical motion, and calibrate the device. Once that's done, it's time to play a game of shuffleboard—without the players ever actually touching the board. The competitive element is far from accidental.

"It always has to have a competition because these are the most competitive people in the world," Sullivan noted.

Along the way, there are many lessons to be learned. Each fall, Floyd takes small groups of rats through the machine shop, showing them how to mill aluminum and add threads so pieces can be screwed on. To Sullivan, these basic skills are critical to success as a mechanical engineer.

"One might say that engineers are not machinists, but it's very important for an engineer to have some background in being a machinist and some



Col. Jay Sullivan, professor of mechanical engineering, helps a cadet debug the driver circuitry for an Arduino microcontroller in the mechanical engineering lab. —VMI Photo by Kelly Nye.

background in understanding your materials,” he stated. “If you’re only a paper engineer, you’re not going to be worth anything.”

Sullivan was also happy to note that the original gift that made the cornerstone lab possible—approximately \$32,000 from the Class of 1943 Academic Excellence Endowment—has turned out to be a gift that keeps on giving. The materials he purchased with those funds in 2015 are still being used today.

“The cornerstone funding that I originally got ... I’m still using all of those pieces,” he said. “To this day, it continues to have an effect.”

Perhaps most tellingly, Sullivan no longer hears a common cadet complaint of years ago: that the theories of mechanical engineering they’ve learned in class don’t match up with the practice of engineering in the real world.

“I don’t hear that anymore,” he said. ❀

Tax Bingo Game Mixes Fun with Learning

By Mary Price

It’s well established that no one likes paying taxes—and no one likes filling out tax forms, either. But we all know there are certain ties in life we just can’t avoid.

So Maj. Kathy Simms, assistant professor of economics and business, along with two cadets, created a tax bingo game this past spring with the goal of helping cadets have fun while learning about the tax rules governing a sole proprietorship. Simms and one of those cadets, Peter Maxwell ’21, presented a paper highlighting the results of their research at the American Accounting Association’s annual meeting in San Francisco, California, in August.

Simms, who is now in her third year teaching accounting at VMI, explained that the inspiration for the game began when she was teaching a tax class.

“[Cadets] really gave me their full engagement for most of the class, but when we actually looked at the tax forms, they struggled to stay focused,” she explained. “I was trying to come up with a way to teach people about taxes that would be less painful for them.”

As she mulled over her options for making the subject more appealing, Simms remembered a presentation she’d attended at Old Dominion University on serious gaming. As the name suggests, serious gaming is playing a game for a goal other than pure enjoyment.

After recruiting Maxwell and Jameson Donahue ’19 to join her, Simms went to work creating bingo cards with questions about sole proprietorships on them. That form of business was chosen, Simms explained, because many people form sole proprietorships if they earn money outside of a regular job, but the tax implications of this can be tricky.

As they worked, Simms, Maxwell, and Donahue sought help from others within the Department of Economics and Business. Col. Sam Allen, professor of economics and business, helped with probability estimates as to how long it should take a player to win at bingo.

“You come up with a research idea, and you take it to other knowledgeable people and they help make your research idea better,” said Simms.

Once the researchers had come up with their game structure and created the bingo cards, they had to find groups of cadets to test them on. In the end, they simply “borrowed” classes of economics and business cadets who had never had coursework in taxation.

“It wasn’t a perfect experiment,” Simms noted. “It was what we call a quasi-experiment, because we couldn’t randomly assign people to classrooms for the day. A real experiment requires random assignment.”

Their quasi-experiment divided cadets into three groups. One group listened to a lecture on taxation, while another played the tax bingo game followed by a lecture, and yet another played the tax bingo game with a lecture interspersed.

In the end, the group that played the game with a lecture interspersed seemed to learn the most, as measured by scores on a pre-test and post-test.

When Simms and Maxwell presented their work, they found widespread interest.

“When we took it to the conference, I think it appealed to people a lot more because we were actually trying to test it,” Simms commented.

Maxwell, who was only in his 3rd class year when the project began, said that the experience opened his eyes to how university-level research takes place.

“I definitely learned how to conduct research—not only how to conduct research, but also how to display and format it in a scholarly article,” he commented. “I also learned a lot about academic journals in general.”

Maxwell also said he gained much from his time in San Francisco, where he and Simms split their allotted presentation time. “That was also a great experience because I had never before given a presentation to a large group,” he commented. “It was out of my comfort zone, a larger group than I was used to.”

After VMI, Maxwell hopes to work in finance—but before he does so, he’s going to study abroad in Prague, Czech Republic, this spring. After having had a chance to do research, see his name in print as co-author of a paper, and attend a professional conference, he’s eager to see other cadets take advantage of opportunities such as this.

“If anyone has a chance to do [independent research], I highly recommend it,” said Maxwell. “It’s just a great opportunity.” ❀



Peter Maxwell '21 and Maj. Kathy Simms, assistant professor of economics and business, show off the tax bingo cards they created.—VMI Photo by H. Lockwood McLaughlin.

History, Engineering Collaboration

New Findings about Colonial Virginia

By Mary Price

What happens when a history professor meets an electrical engineer? At most schools, the answer might very well be “nothing.” But at VMI, the answer is a successful collaboration that’s been going on for over a decade and has now resulted in the publication of four scholarly articles.

This summer, *The William & Mary Quarterly* published “Knowing When to Fold: Litigation on a Writ of Debt in Mid-Eighteenth Century Virginia.” The essay is the result of years of work on the parts of Col. Turk McCleskey, professor of history, and Col. Jim Squire, professor of electrical engineering.

McCleskey’s interest in debt litigation among residents of colonial Virginia began several years ago as he was doing research for a book he would ultimately publish in 2014, *The Road to Black Ned’s Forge*. As he worked, McCleskey found that Edward Tarr, the main character of the book title and the first free black landowner west of the Blue Ridge, had been involved in more than one lawsuit having to do with the collection of debt.

But when McCleskey went to put that finding in context, he ran into a brick wall. “I couldn’t say if that was significant or not,” he explained. “I started looking around and there was no literature that said this is what’s normal for litigation, this is what to expect.”

At that point, McCleskey had to just keep going and finish the research for his book, but he came back to debt litigation as a research interest later. He’d obtain court records on microfilm and enter them one by one into a database on his laptop.

The process was slow enough as it was, but then McCleskey, a Marine Corps reservist, faced an additional challenge when he was deployed to Guantanamo Bay, Cuba, from 2005 to 2007. The Marine Corps took over his daytime hours, so McCleskey used the evenings to his advantage.

“In the evenings, on my own time, I’d put on a baseball game and sit there and compile the data,” he commented.

By the time his deployment ended, McCleskey had data on approximately 3,600 lawsuits and 5,000 property transactions. Shortly after he returned to VMI, he ran into Squire, who asked, “What did you do for fun while you were down there?” When McCleskey explained what a tremendous volume of data he’d acquired, Squire volunteered to come on board as a number cruncher.

Just how much work McCleskey had put in by that point is almost impossible to overstate. “Until [McCleskey] came, these [records]

were all hand-lettered using quill ink pens in ledgers in different courthouses scattered all through Virginia,” noted Squire. Banks didn’t exist, McCleskey explained, and debts were often recorded on slips of paper.

Amassing the data, though, was just the first step. The next step had to do with determining what kinds of stories the data could tell. Very quickly, McCleskey and Squire learned that colonial Virginians were much more litigious than their modern-day counterparts. On average, each person was involved in one lawsuit every nine years.

That in itself was newsworthy—but there was more. In the most

recently published article, McCleskey found that the high volume of debt litigation bolstered support for the courts, which carried out both executive and judicial functions in colonial times. The court might order a landowner to come together with his neighbors and fix the road, for example, or grant a license for a tavern.

“The county court is making decisions that have daily ramifications for people,” McCleskey explained. “There’s no popular input, no voting for the people who are telling you what to do. You hope that the legal system is sufficiently impartial.”

One might suspect that this system would lead to unrest—yet it did not, and Squire’s analysis of McCleskey’s data shows why it did not.

Using a decision tree, Squire graphically showed in the article that in the five Virginia counties included in the study—Augusta, Middlesex, Richmond, Surry, and York—only about 5 percent of



Col. Turk McCleskey, professor of history, poses with historical interpreters at the Williamsburg Courthouse.—Photo courtesy of Col. Turk McCleskey.

the court cases initiated between 1746 and 1755 went to trial. What's more, McCleskey added, in the cases that did go to court, the evidence was very clear.

Because of this, the history professor noted, citizens were likely to conclude, "There's nothing wrong with the courts. Everybody's making good decisions ... the judges must be okay."

The county court system of colonial times, as odd as it may seem to modern sensibilities, "is a great example of a non-democratic but stabilizing process," said McCleskey.

For his part, Squire doesn't see his role in supporting McCleskey's research as unusual.

"My job is essentially applied mathematics," he stated. "An engineer does applied mathematics to solve social problems."

McCleskey, meanwhile, is grateful for Squire's willingness to share his skills. "I don't have the ability to do anything more than see the potential in all of this," he noted. "I can build an accurate data set, but I can't drive it around the block."

McCleskey also had a funny observation about his and Squire's most recently produced collaboration.

"The weirder pairing isn't the co-authors," he observed. "Not since it was founded in 1892 has *The William & Mary Quarterly* published an article with a country-western allusion in the title." ❀

VMI Highly Ranked In *U.S. News*, *Washington Monthly*, and More

By Mary Price

Major media outlets have once again given VMI high marks for the quality of its educational programs and outcomes of graduates.

For the fifth consecutive year, the Institute held onto its high placement from *U.S. News & World Report* in this fall's college rankings, maintaining its status among the top four public liberal arts colleges nationwide.

U.S. News ranked the Institute fourth behind the United States Military Academy, the United States Naval Academy, and the United States Air Force Academy in the category of public liberal arts colleges.

VMI is ranked No. 72 among national liberal arts colleges by *U.S.*

News, up from No. 81 last year, in a category that includes 215 public and private schools. The only Virginia schools ranked higher in the national liberal arts category are Washington & Lee University, 10th, and the University of Richmond, 23rd.

U.S. News also ranked VMI's engineering program 26th, which tied the Institute with James Madison University for highest-ranking engineering school in Virginia for institutions not granting a doctoral degree. In the category of undergraduate business programs, VMI was ranked 224th out of more than 500 colleges and universities nationwide, up from No. 235 last year. *U.S. News* ranks engineering and business programs solely by reputation.

Overall, the *U.S. News* rankings are based on such factors as a college's reputation as rated by academic leaders nationally; the retention of students; class size; quality of the faculty; quality of students; financial resources; graduation rate performance; and alumni giving rate.

Washington Monthly also ranked VMI quite highly, placing the Institute 22nd nationwide among liberal arts colleges. It's the Institute's highest placement ever by *Washington Monthly*, and a substantial jump from last year's ranking of 39th. The only Virginia



Cadets make their way to class Aug. 29.—VMI Photo by Kelly Nye.

school ranked higher was neighboring Washington & Lee University, which was ranked 1st.

Within the social mobility category for liberal arts colleges, VMI is ranked 11th. Placement in that category is determined by the net price paid by a student from a family earning less than \$75,000 per year. The Institute is also ranked No. 1 for ROTC participation.

VMI was ranked 44th in *Washington Monthly*'s Best Bang for the Buck southeast region rankings, a category

designed to recognize schools that help Pell Grant recipients earn bachelor's degrees.

Washington Monthly's college rankings, which include more than 1,700 institutions of higher learning nationwide and 214 liberal arts colleges, are designed to recognize an institution's commitment to social mobility, research, and public service.

Money magazine ranked VMI as the 7th best small college in America, the 33rd best public college nationally, and 49th among all colleges nationally, regardless of their size or category.

In addition, the *Wall Street Journal*/Times Higher Education College Ranking placed VMI 176th out of 801 colleges nationwide, and 41st out of 209 in the South. Nationwide, the Institute was ranked 133rd for outcomes, which are measured by graduation rate, reputation, graduate salary, and debt after graduation.

In another recently released ranking, VMI was ranked No. 1 in Virginia, and 25th nationwide, in SmartAsset's fifth annual best value colleges list. With an average starting salary of \$63,900 for its graduates, the Institute topped the best value and starting salary categories for Virginia and placed second behind Mary Baldwin University for student living costs. ❀



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Oath Day

Each year, a new class of cadets learns about VMI's heritage at the New Market Battlefield State Historical Park before taking the Cadet Oath Sept. 1. The new cadets toured the Virginia Museum of the Civil War, charged the battlefield, and received their shoulder boards before marching in a parade through downtown New Market.—VMI Photos by H. Woodward McLaughlin.





9/11 Tribute

More than 100 cadets and local EMTs participate in the 9/11 memorial stair climb in barracks on the 18th anniversary of the tragic event. The memorial, led by the VMI Firefighting Club, replicates the 110 floors climbed by 9/11 responders in the World Trade Center. While many cadets are not old enough to remember that morning, they proudly wore the names and photos of victims.—VMI Photos by Kelly Nye.



VMI Naval ROTC Celebrates 45th Anniversary

By Mary Price

VMI has had three ROTC units on post for so long that it's sometimes hard to believe that the Army, Naval, and Air Force ROTCs haven't always been here.

But for the Naval ROTC, which celebrated its 45th anniversary with a gala Sept. 14, there are plenty of people who remember the unit's founding and can give credit to the individuals who made it happen.

The story begins in 1973, when word came to VMI that the Naval ROTC unit at another school was shutting down. Swinging into action right away to get the unit transferred to VMI were Maj. Gen. Richard Irby '39, then superintendent; Col. William Buchanan '50B, then commandant of cadets; and Brig. Gen. James "Jimmy" Morgan, then dean of the faculty.

Irby wrote a letter to John Warner, then secretary of the Navy, asking for permission to establish Naval ROTC at the Institute, and when that permission came, the unit was formally established on July 1, 1974.

Col. Jim Williams '66 recalled that the new unit "was stood up on a shoestring." Williams, who was Marine officer instructor at VMI at the time, said that under normal circumstances, getting a new ROTC unit up and running would have taken two to three years, but VMI managed to do it in one year.

"We were scrambling," he stated, with textbooks arriving just in time.

The first commanding officer of the new unit was Col. George Ripley '52—and one of those he recruited to work under him would go on to play a major part in the Institute's history by serving as sergeant major to the Corps of Cadets in the 1990s.

A Marine since his enlistment in 1960, and a Vietnam War veteran, Al Hockaday was a gunnery sergeant stationed on Okinawa when one day he heard someone shout, "Hey, gunny, you got a phone call from the Pentagon!" Thinking this was likely a joke, Hockaday ignored the message—only to be



Retired NROTC instructors Col. James R. Williams '66, Col. James L. McManaway '55, Senior Chief Yeoman Karl E. Kessinger, and Sgt. Maj. Al Hockaday cut the cake to celebrate 45 years of Naval ROTC at VMI.—VMI Photo by Kelly Nye.

told a minute later that the caller was still on the line.

He picked up the phone, barked, "Who is this?" and found himself speaking with Ripley, who was calling from the Pentagon because at the time he was serving as an aide to Warner. Little did Hockaday know back then that he'd one day call Lexington his permanent home and even run a business there, as he and his wife, Ernestine, who spells her name with a lowercase "e," ran the Shenandoah Attic and Victorian Parlour for many years.

Stood up on a shoestring or not, the Naval ROTC was well supported by the Institute from its inception. By then, VMI had had two Marine Corps generals as superintendents—Lt. Gen. John Lejeune, who had served as commandant of the Marine Corps during the 1920s, and Lt. Gen. George R.E. Shell '31—so while the Naval ROTC was new to VMI, the Naval service's tradition of leadership was not.

"Kilbourne Hall was much smaller than it is now, but even then all of the ROTC units had their own classrooms, their own studies, their own office spaces,"

Hockaday explained. "VMI did a phenomenal job of preparing itself to receive the Naval ROTC unit."

Hockaday recalled that after the first year, only four new officers were commissioned. Over the decades that followed, though, the program grew, and from 2009 to 2019, VMI's Naval ROTC produced nearly 500 Navy ensigns and Marine Corps second lieutenants. In the spring of 2020, more than 50 are expected to commission.

And the unit's strength isn't just in numbers. "The quality of the young men and women coming through this program is so much greater than it was 20-some odd years ago," said Col. Craig Streeter '91, commanding officer since 2017.

"It's just standards of excellence across the board, whether it's academics, physical fitness, leadership ... the whole package," Streeter continued. "It's just extremely high standards, and I see it each and every day."

Streeter noted that many Naval ROTC cadets who excel in ROTC also perform well in other areas of life at the Institute. "Consistently you'll see Navy/Marines leading companies up on the hill," he stated.

"We attract high quality young men and women." ❁



Col. James R. Williams '66, VMI's first Marine officer instructor in the NROTC unit, speaks to a group gathered in Kilbourne Hall Sept. 14 to celebrate the 45th anniversary of the program at VMI.—VMI Photo by Kelly Nye.

Strategic Futurist Speaks at Convocation

By Mary Price

Strategic futurist Nancy Giordano, who regularly meets with leaders of Fortune 500 organizations, told cadets they have more potential to change the world than most current industry leaders. She addressed cadets, faculty, staff, and community members gathered in Cameron Hall Sept. 4 for a convocation launching VMI's 2019-20 academic year.

Giordano, a longtime TEDx curator with a background in advertising, told her listeners that a future shaped by factors such as artificial intelligence, robots, and drones must be undergirded by human qualities such as empathy, compassion, and integrity.

She began her remarks with an explanation of what she termed "the liminal gap" between old technologies that have been rendered obsolete and new ones that are being created daily. "It's the space between what has existed then and what will exist next," Giordano said of the liminal gap.

This gap, she noted, elicits a wide range of reactions from individuals, from nervousness to ambiguity to sense of powerlessness. Giordano argued, though, that those who will thrive in the future are those who can recognize the opportunity to build a better world.

"The people who are built for action ... find this a very, very exciting time," the speaker stated. "We get to rebuild so many of the things that may not be working



Strategic futurist Nancy Giordano addresses cadets, faculty, and staff during Academic Convocation Sept. 4 in Cameron Hall.—VMI Photo by Kelly Nye.

for everyone. We get to come up with new solutions to improve people's lives."

Among those new solutions, she noted, are an Austin, Texas, company that has developed a method of 3-D printing a house in less than 24 hours, at a cost of less than \$7,000. The company's goal is to provide

safe, affordable housing for poverty-stricken residents of Central America.

Yet others include software allowing people around the globe to remotely collaborate and build structures as intricate as an airplane wing in 3-D, machine learning tools that analyze an individual's pronoun and

emoji use to diagnose depression and risk of suicide, and hydroponic food production that has the potential to drive food prices down dramatically.

"These are the things that get me excited about the future and imagine wanting to deploy these technologies more and more quickly," she said.

Cutting-edge technologies and new tools are exciting, of course—but as the future becomes the present, it's important to remain vigilant for downsides, Giordano noted.

"With this kind of advance comes tremendous responsibility," she commented, adding that loneliness and anxiety seem to be increasing as technology accelerates, as do



Cadets, faculty, staff, and members of the community attend Academic Convocation in Cameron Hall Sept. 4.—VMI Photo by Kelly Nye.

episodes of violence, educational disparities, and perhaps most chilling, the ability to digitally fake nearly anything.

In the wake of these huge waves of technological change and social upheaval, questions of privacy, inclusion, and ethics must rise to the forefront, Giordano cautioned. Referring back to a conversation she once had with technology industry leaders about

cloud computing, Giordano asked, “What are the implications of the human cloud?”

A successful adaptation to a future that’s still being born, Giordano believes, will require five critical capacities. The first is curiosity. As Giordano reminded her listeners, “A constantly changing future requires a constant learner ... There has never been a better time to be curious.”

The second is agency, which Giordano defined as “that sense that you have confidence and responsibility, that you can take action.” The CEO of a well-known technology company, she explained, tells job applicants that she’s hiring for FIO jobs, with the letters standing for “figure it out.”

Third is empathy and its critically important partner, compassion. And it’s time, Giordano said, to move past the outdated idea of empathy as a female quality. “[Empathy] is how you drive smart, human-centric design,” she said. “It’s how you build engaging teams that want to be a part of something.”

The fourth is grit, or relentless persistence. “Grit is not about avoiding things that are difficult. It’s about having the ability to survive and thrive through those things,” Giordano commented.

The fifth is integrity, because without it, technology will exploit rather than empower the user. “Trust is the most important thing that a person or an organization can cultivate,” Giordano stated.

In closing, Giordano reminded her listeners that the future will be built by them. “Don’t let my talk just sit here,” she counseled. “Show the rest of us how to navigate this dynamic new world with wonder and compassion and ingenuity and discipline.” 🌿



Nancy Giordano gives the Academic Convocation address in Cameron Hall Sept. 4.—VMI Photo by Kelly Nye.



Raising the Flag

Cadets raise the United States flag on Sept. 14 at the George C. Marshall International Center, Marshall’s former home in Leesburg. The flag raising was part of a ceremony dedicating a new flagpole erected thanks to the generosity of more than 50 VMI classmates of Thomas Greenspon ’85, president of the center. Retired Navy Vice Admiral Mike McConnell was also on hand as keynote speaker for the dedication. Marshall was a member of VMI Class of 1901.—Photos courtesy of Sgt. Maj. Tom Sowers.



explained that before the anatomy class was offered, the only class even somewhat like it on post was comparative morphology, which the biology department offers.

The Anatmage Table offers an ultra-high resolution 3-D visualization system to create a vivid picture of the body's circulatory, nervous, and lymphatic systems, plus internal organs. It's pre-loaded with four cadavers of both genders and varying ethnicities. What's more, the individuals whose body images are used, all of whom donated their

bodies to science, died of various diseases and the effects of their illnesses can be clearly seen via virtual dissection.

"It's really helpful, being able to see all of that stuff," noted Ostrander. "It's just like dissecting an actual person without having to do that. The graphics on it are really amazing. You can see every little fine detail."



Col. Mike Krackow, professor of physical education, shows cadets various uses of the Anatmage Table.—
VMI Photo by Kelly Nye.

Ostrander isn't planning a medical career, but he's still glad he took the class. "[Anatomy] is something everyone should know a little bit about," he commented.

On a broader scale, Krackow wants to let faculty members across post know that the table is available for use by their classes. "It's open to anybody," he said. "I plan on using it in most of my classes."

Krackow also noted that the table really fills a gap, as the Institute is too small to have a full-scale dissection lab, even for animals. "They're saying virtual reality is the way to go," he stated. "For the limited resources we have, this is excellent."

The table's cost of just under \$80,000 was paid for by Virginia's Higher Education Equipment Trust Fund. ❁



NROTC Library Dedication

Matthew Hemenez '90 watches as his mother, Julia Hemenez, cuts the ribbon at the opening of the Col. Richard L. Hemenez Collection inside the Naval ROTC office in Kilbourne Hall Sept. 5. The late Richard Hemenez graduated from UCLA and then served in the Marine Corps for nearly 30 years. Following his death, the Hemenez family donated his extensive collection of more than 850 military history books to the Naval ROTC at VMI. Col. Craig Streeter '91, commanding officer, spoke to guests and thanked the Hemenez family prior to the dedication ceremony.—VMI Photos by Mary Price.

2019 Day of Giving a Huge Success

By Scott Belliveau

One of the greatest and most enduring aspects of VMI life is the willingness of the VMI community to provide scholarship support for cadets.

"It started in the 1850s," said Steve Maconi, CEO of the VMI Alumni Agencies. "Alumni successfully lobbied the state government to allow scholarships at the Institute. Since then, enthusiastic support of them by alumni and friends has been one of the strongest traditions at VMI.

"The VMI family knows that each type of scholarship plays important roles. Merit scholarships help the Institute recruit young people who have the obvious potential to thrive in its challenging academic environment.

Need-based scholarships ensure that qualified young people can attend VMI regardless of their financial situations, and increasing athletic scholarship resources brings us closer to the day when the full amount of the scholarships allowed by the NCAA is funded."

Mindful of this tradition and this ever-pressing need, the VMI Alumni Agencies decided to devote its second annual Day of Giving Aug. 27 to raising money for scholarships. "All the money, every penny, will be used for need-based scholarships, academic merit scholarships and athletic scholarships," said Maconi.

"In higher education circles, days of giving are proven opportunities to rally the community around the flag—to gather together, in a spirited effort, to raise dollars for a particular program or fund," said Amy Goetz, VMI Alumni Agencies chief communications officer. "This year, with our focus on the goal of creating a lasting impact in the lives of worthy young men and women in the form of scholarships, we expected it would motivate the VMI family to get involved."

That expectation was fully realized, and the effort was a huge success. A donation was made for all 88 living alumni classes. Parents and family played a major role in the success of the day, as did current and past faculty and young and senior alumni. Donors were from 47 states and more than five countries around the globe. Former athletes made up 34% of the donors. In all, 1,102 donors gave \$257,056 in immediate gifts.

The Day of Giving also embraced two traits often associated with VMI alumni: brother rat spirit and competitiveness. Classes with living alumni were divided into three teams—Red, White,

and Yellow—competing for the highest dollar amount raised. The Red team encompassed the classes of 1941 through 1969, Yellow was the classes of 1970 through 1997, and White was the classes of 1998 through 2020+3.

As expected, competition was stiff among the classes. For the Red team, the Class of 1953 led in the early hours but was overtaken by the Class of 1965 in the afternoon. Although other classes surged later in the day, the Class of '65 held on for the Red team win.

On the Yellow team, the Class of 1973 was ahead early on, but was edged out by Class of 1990 in the afternoon. But a late push for donations from within its ranks spurred the Class of 1984 to a strong finish and the win. It must be noted that the Class of 1990 did amass the most donors from any class, with 105 participating.

In the youngest segment of alumni classes, the race went back and forth several times—even the current rat class held the lead for a brief time early in the day. The Class of 2010 led in the morning, then 2005 surged forward in the afternoon, but—in a stunning upset—was overtaken in the late evening hours by their rats—the Class of 2008—for the White Team title.

The prize for winning the team challenge was

to have VMI's mascot Moe sport the winning classes' number on his jersey during two home football games this fall. At the year's first home game Sept. 7, he rightfully wore the No. 65, and the class was recognized with a scoreboard announcement and Moe on the field during halftime. Moe also wore 65 for the second home game. In the third and fourth games, he will wear 08, and he will don 84 for the final two home games of the season.

One phenomenon during the day that moved the people at the Agencies was the donations received honoring alumni in classes that have no living members. "We had donors who gave in honor of fathers and grandfathers in such classes as the Class of 1931, 1935, and 1940," said Goetz. "It demonstrates how much their VMI experience meant to these men—and how obvious their love for the Institute was to their families."

"Our sincerest thanks to all who participated in this event in any way," said Maconi. "All those who gave did something very important: they provided young people with an opportunity to receive a remarkable, transformative education that will prepare them for lives of success, leadership, and service." ❀



Moe wears the number 65 on his jersey in gratitude of the Class of 1965 during the Mars Hill football game in Foster Stadium, Sept. 7.—VMI Photo by H. Lockwood McLaughlin.

Rat Line Health a Top Priority

By Mary Price

At any college or university, germs are going to be everywhere. Ditto for the possibility of injury, as college students tend to live active lives. But at VMI, and especially for incoming rats, the possibility of illness and injury looms larger than it does at other schools.

Thankfully, there's a wide swath of people on post who know how to treat cadet illnesses and injuries, ranging from the simplest blister to fractures and more serious injuries that must be treated off post. And as the Rat Line doesn't change much from year to year, neither do the most common injuries, such as strains and sprains.

The 60 cadets who've been certified by the state as non-transporting emergency medical technicians (EMTs) are often the Institute's first responders when injuries occur.

"We coordinate very closely with the EMTs," explained Dr. David Copeland, Institute physician. "There are EMTs assigned to each company, and we brief them before matriculation about the common things they might see."

What's more, each August before Matriculation Day, the EMTs assigned to each company are provided a list of incoming rats with medical conditions, so they can keep a special eye out for those individuals.

"They know who's taking what medications, and who has what allergies," said Copeland, who referred to the EMTs as "another safety check on the [cadets]."

During Matriculation Week, when temperatures typically soar into the 90s, there's another form of safety as well, in the form of a fan-cooled room in barracks where those feeling weak or woozy due to the heat can come sit down, drink some water, and then rejoin their company when they feel better. This approach, Copeland explained, helps cadets take a break without having to come all the way to the post hospital.

For those in need of medical care, Copeland and nurse practitioner Jenny Crance see ill or injured cadets on a walk-in basis at the post hospital, located behind Crozet Hall. During Matriculation Week, the two typically work nine days straight to make sure all cadet needs are met. During the remainder of the academic year, Copeland and Crance are available all day Monday through Friday and on Saturday mornings. When they're not on post, they are both on call. In addition, two nurses staff the post hospital from 7 a.m. to 11 p.m., and another is on duty overnight.



Cadet EMTs attend every major event hosted by VMI, including Oath Day at New Market.—VMI
Photo by H. Lockwood McLaughlin.

Copeland stressed that the post hospital welcomes calls from parents who are concerned about their son's or daughter's health.

"For cadets who come to the infirmary, unless it's a confidential issue, I don't have any problems sharing things with parents," he stated. "Parents are going to be contacted if there's any kind of serious injury or illness."

Looking out for cadets' mental health is Col. Sarah Jones, director of the Center for Cadet Counseling. During Cadre Week, Jones and her staff train the regimental staff, cadre, EMTs and all others who will interact with the rats about how to recognize and respond to cadets in distress, and even train on suicide prevention.

Throughout the school year, the Center for Cadet Counseling's three licensed professional counselors provide individual, confidential counseling for cadets who need help sorting out the many challenges of life at the Institute.

"All of the company commanders have my cell phone number," said Jones. "They know what the procedure is if they're concerned about someone." ❄



Nurse practitioner Jenny Crance teaches cadets about the services provided by the post hospital during the Cadet Health and Wellness Fair in Cocke Hall Sept. 18.—VMI Photo by Kelly Nye.

VMI Football: Back to Back Wins

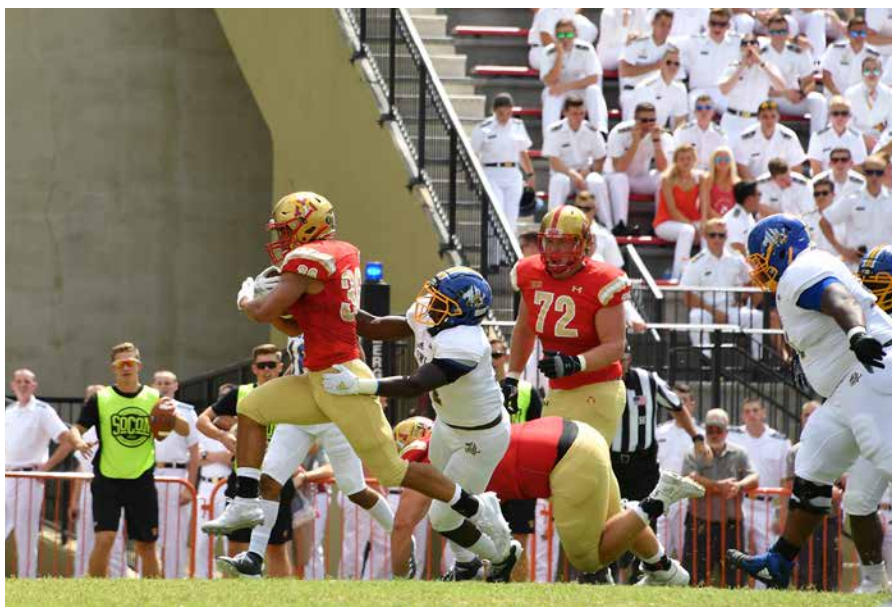
By H. Lockwood McLaughlin

After dropping the football season opener 21-7 against Marshall, the Keydets bounced back to notch two successive wins.

In its first home game of the season, the team came up with a big win against Mars Hill University Sept. 7. With an energetic Corps and crowd cheering them on, VMI defeated Mars Hill 63-21.

The beginning of the game saw a number of explosive drives that resulted in a 21-0 lead at the end of the first quarter. Cornerback Kaleb Tucker '20 was responsible for two interceptions in the quarter which resulted in two of the three scoring drives for VMI, helping him to earn the title of SoCon Defensive Player of the Week. Defensive back A.J. Smith '21 also had two interceptions during the game. Final turnovers were 5-1 in VMI's favor.

Running back Alex Ramsey '20 ran the ball for his first VMI career touchdown in the first quarter and scored again at the beginning of the third to finish the game with a 41-yard reception, 95



Alex Ramsey '20 scores a touchdown against Mars Hill in Foster Stadium Sept. 7.—VMI Photo by H. Lockwood McLaughlin.

total receiving yards, and 183 all-purpose yards; all career highs.

The game was full of spectacular plays with strong offensive and defensive performances, which included a number of freshmen and reserves. Among the slew of great plays were those of quarterback Reece Udinski '21, who threw four touchdown receptions. True freshman quarterback Leroy Thomas '23 scored the third touchdown of the game. Wide receiver Jakob Herres '22 scored from 36 yards out with one of Udinski's passes. Wide receiver Max Brimigion '23 scored on a 32-yard pass

from quarterback Chance Newman '22. Freshman quarterback Seth Morgan '23 threw for his second VMI career touchdown at the beginning of the fourth quarter. And late in the game, running back Chima Kpaduwa '21 had a 75-yard scoring run.

One week later, the Keydets faced East Tennessee State University in Johnson City. With hours of weather delays, the game went late into the night, in which the Keydets pulled out a win in a spectacular overtime performance. The final score was 31-24 and represents VMI football's first Southern Conference win since 2016.

The Keydets were trailing 24-21 late in the fourth quarter and with help from a 29-yard rush from Udinski, kicker Grant Clemons '21 tied the game with a 30-yard field goal. On VMI's drive in overtime, Javeon Lara scored with a 21-yard reception from Udinski. In a nail biting follow-up, ETSU drove to VMI's five-yard line with four plays left. VMI stopped a one-yard rush, and three incomplete passes sealed the win for VMI.

Ramsey had two running-play touchdowns and a career high 11 receptions. Herres and senior Rohan Martin '20 also had career-high receptions at eight and nine, respectively. Clemons' kicks totaled eight points for the Keydets. On defense, defensive back Josh Sarratt totaled 11 tackles. Defensive back A.J. Smith totaled 9 tackles which, along with Jordan Ward '21, included the stop of ETSU's rush attempt on the five-yard line near the end of the game.

As the football season continues, visit vmikeydets.com for updates on the team's progress. ❁



The Keydets face Mars Hill in Foster Stadium Sept. 7.—VMI Photo by H. Lockwood McLaughlin.



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New Combat Uniforms Introduced

By Mary Price

Sharp observers of cadets engaged in field activities this academic year will notice a change: new combat uniforms.

Over the late spring and summer, VMI Auxiliary Services obtained operational camouflage pattern (OCP) uniforms to replace the Army combat uniform (ACU) that cadets had worn for approximately the past 10 years. The change was made to keep cadet uniforms in line with those worn by personnel in the U.S. Army.

"[The Army] fielded this pattern about 2012 for units going to Afghanistan," explained Lt. Col. Lee Clark III '93, assistant director of auxiliary services. "After some more testing, they decided to field it to the entire Army."

Camouflage is, of course, meant to help the wearer blend in with his or her surroundings. Clark explained that the OCP uniforms do that job better than the ACUs did. The new uniforms are a darker green with more brown patches than their predecessors, which had a grayish hue.

"It's a bit more of a useful pattern, particularly in woodland or jungle areas," Clark stated.

Funding for the new uniforms, in the amount of \$1.4 million, was allocated by the General Assembly last year—an amount of



Rats march up Letcher Avenue after Rat Crucible in 2018 (left) wearing ACUs, and in 2019 (right) wearing OCPs.—VMI Composite by Kelly Nye and H. Lockwood McLaughlin.

money that covered two sets of OCPs for all cadets plus faculty and staff who use them, in addition to T-shirts, boots, belts, and hats.

There's also a new item of clothing, to be used when the weather is decidedly unpleasant. "Working with the commandant's staff, we got a [water resistant and breathable] jacket and a fleece liner, so now the cadets have an option for cold or wet weather, or both—kind of a field uniform," noted Clark. "It gives the commandant some flexibility when it

starts to snow or we get a lot of rain."

But getting the funding for the uniforms was just a first step. The second step was finding a vendor who could supply them in sufficient quantities and work within the state procurement system. Luckily, VMI was able to take advantage of a uniform contract that Virginia Tech already had in place for its cadets. Alexandria, Virginia-based Full Metal Jacket thus became VMI's OCP supplier.

Luckily, the owner of Full Metal Jacket could also help VMI out with another problem: what to do with the ACUs that cadets no longer needed.

"The price that he gave us for the surplus we applied to buy more uniforms," explained Clark. "We spent a lot of time trying to maximize what we could get for the money we had." ❧