OLD DOMINION UNIVERSITY
INFORMATION TECHNOLOGY SERVICES
2018-2020 ITS STRATEGIC & OPERATIONAL PLAN

OLD DOMINION UNIVERSITY VISION STATEMENT

Old Dominion University will be recognized nationally and internationally as a forward-focused public doctoral research university with a collaborative and innovative approach to education and research that spurs economic growth, focuses on student success, engages civic and community constituents, and utilizes its strong relationships with a variety of state and national partners to provide solutions for real world problems.

OLD DOMINION UNIVERSITY STRATEGIC GOALS

Goal 1. Enhance the University’s academic and research excellence
Goal 2. Support student success from first point of contact through graduation and beyond
Goal 3. Enrich the quality of university life
Goal 4. Engage with the greater community
Goal 5. Promote an entrepreneurial culture to catalyze economic development

Information Technology Services Mission Statement

Information Technology Services (ITS) will provide high-quality, cost-effective and secure information technology services that meet the changing and expanding needs of the University. ITS fosters excellence, innovation, collaborative partnerships, and sound practices in the development and use of information technology services in teaching, learning, research, and administrative endeavors across the University.

Information Technology Services Vision Statement

ITS exists to provide support to Old Dominion University’s core activities of teaching and learning, research, and administrative services by making available advanced academic and administrative technologies to the educational, research, student and administrative communities. Through development of core services, innovative solutions and responsive support, ITS leads in the adoption of new technologies and increased efficiencies through active partnerships with the key University communities.

INFORMATION TECHNOLOGY STRATEGIC & OPERATIONAL PLAN

INTRODUCTION

Information technology permeates every aspect of our academic and operational environments. The quality of IT services impacts the advancement of research, the quality of our teaching and learning, the efficient and effective administration of our business, and the quality of our interaction with everyone who is affiliated with Old Dominion University.

We look to information technology to foster academic and research excellence. The University’s IT resources help recruit and retain elite instructors and researchers through the availability of technology-based tools to support their efforts.
We look to information technology to support **student success**. It equips advisors and instructors, and gives students access to resources in a personalized and relevant way.

We depend on information technology to **enrich the quality of University life**. Relationships with students from their initial interest to post-graduation is enabled and enhanced by information technology services. Access to University resources is enabled through mobile and user-friendly online resources.

Undergirding these institutional goals is the effective administration of the business of higher education and research. Information technology is a core component to **effective and efficient business administration**.

The use of information technologies will help Old Dominion University realize its strategic vision.

**CORE VALUES**

Information Technology Services strives to embrace a set of core values to influence all of our efforts. These core values shape our approach to all that we do.

**Value 1: People are our most important resource.** While operating in an environment that routinely embraces challenges with technological and financial resources, ITS recognizes that our human resources are the most valuable key to the wellbeing and success of the institution.

**Value 2: Collaboration and partnerships are keys to success.** Information technology touches nearly every aspect of University life, which puts ITS in a strong position to understand the interconnectedness and interdependencies that exist. Through strong partnerships with key units, and through collaborative efforts throughout our institution, ITS can help craft solutions that keep ODU at the forefront of academics and research.

**Value 3: When we see it, we own it.** The idea of “that’s not my job” is foreign to ITS. When we see something that needs attention – whether it is a customer who has a need that is outside of our immediate area of expertise, or a business process that can be improved – we take an active role in resolving the problem or to initiating the improvement.

**Value 4: How matters.** Success lies not only in what we do, but how we do it. Having a strong plan for what to do is elevated by a strong commitment to doing it in a way that fosters overall and long-term success. Project management, process improvement, operational excellence, collaboration and communication all play parts in how we do what we do.

**Value 5: Technology is complex and rapidly changing**, requiring constant pursuit of new and better solutions that meet the needs of Old Dominion University. ITS is committed to seek out new and better ways to leverage technical advancements to fulfill our academic and research goals, to communicate new ways to solve age-old challenges, and to proactively adapt to emerging opportunities for efficiencies and for advancement.

**Value 6: Our job is to make others successful.** ITS is a strategic enabler for ODU. Our success lies in our commitment to making others more successful through the use of technology that allows them to reach their goals.

**Value 7: Students, instruction and research are paramount.** The reason for the business of Old Dominion University and the purpose behind technology services at ODU is to promote research that impacts our community and to support the instruction and learning that gives opportunities for life-long fulfillment to our graduates.
Continued focus on enrollment management and student success requires data and data analytics, personalized and highly engaged user experience, and teaching and learning infrastructure and support. Considering this focus, the top three trends in higher education information technology are understandable – data security, student success imperatives, and data-informed decision-making. A variety of sources support the operational and strategic planning efforts of ITS, including ECAR Trend Watch 2017, Inside Higher Ed analysis of ECAR Trends to Watch in 2017, EDUCAUSE Top 10 IT Issues, EDUCAUSE Top 10 Strategic Technologies, and the 2017 New Media Consortium Horizon Report.

Advancement in computation hardware towards exascale computing and modeling will accelerate research and discovery in health sciences, machine learning, national security, and many more areas. A recent $258M investment by the Department of Energy to accelerate development of exascale computing by 2021 reinforces the national focus towards computation and modeling. Continued development of scalable computational resources and support for faculty researchers will be critical to compete for grants.

Trends that are evident and are factored in this plan include:

- The changing organizational role of Information Technology as an agent of transformation and innovation, as a service broker, and as an enabling partner with business and academic units
- Growing need for institution-wide data management and integrations
- Business process engagement
- International strategies (for both local and online international students)
- The need for technology-enabled cost efficiencies
- Technology-based instructional innovations (such as data-enabled active learning environments)
- Blended learning (online, face-to-face, multimedia-enabled) and collaborative learning (always accessible collaboration and workgroup sharing)
- The changing vendor-institution relationship
- Cross-institutional partnerships and consortia
- Support for legacy technologies as new technologies emerge
- Data-informed decision making
- Protection of increasingly data-enabled services
- Staff skills re-factoring for data-mediated services and data protection
- Agile and service-focused support approaches
- Making “mobile” mainstream
- Continuing education blended with degree programs
- Technology innovations – location intelligence, big-data analysis, infrastructure and cloud innovations
- Investment in research computing and support

The top IT strategic technologies for 2016-17 were:

- Active learning classrooms (e.g., student-centered, technology-rich learning environments)
- Technology for improving analysis of student data
- Incorporation of mobile devices in teaching and learning
- Uses of Application Program Interfaces (APIs)
- Mobile applications for enterprise applications
The top IT issues for 2016-17 were:

- Information security
- Student success and completion
- Data-informed decision making
- Strategic leadership
- Sustainable funding

**2018-2020 STRATEGIC & OPERATIONAL PLAN**

The 2018-2020 Strategic & Operational Plan incorporates strategic, long-term goals along with strategic opportunities that are designed to address current challenges and needs into plans for the next two to three years.

Undergirding the University’s strategic goals are these key areas:

- Staff development and organizational alignment
- Infrastructure and core services
- Teaching and learning
- Research computing
- Enterprise applications
- Advancement of the data-informed institution
- Enhanced personalized services and support

**Staff Development and Organizational Alignment**

Like our technical infrastructure, our organizational development and alignment is foundational to the advancement of University goals. With changes in technology, business tools and techniques, teaching and learning strategies, and user expectations, and with ITS’s unique position of connecting the communities of the University together through technology, ITS can fill key roles as consultant, facilitator, negotiator, partnership builder, collaborator and process improver. By evaluating and improving the way we make our contribution to the University, ITS can be a strategic partner and enabler across the spectrum of University services.

**Partnerships and Alignment:**

- Develop and foster key partnerships with Colleges, Academic Affairs, Research, Enrollment Services, Distance Learning, ODU Strategic Communication and Marketing, ODU Police, and Administrative support units
  - Support academic objectives, including Colleges, a growing Distance Learning program, the College of Continuing Education and Professional Development, High Impact Practices, and the Graduate School
  - Support Academic Affairs initiatives for cybersecurity, big data, advising, and program development
  - Support Enrollment Management in a competitive environment
  - Support continual effort of units in areas of student success
  - Support the Office of Research strategic plan
  - Support business improvements within administrative units
  - Support Strategic Marketing and Communications with web presence and strategy
• Realize efficiencies through collaboration – VASCAN, MARIA, e-Lite, Internet2, EDUCAUSE, SURA, Coalition for Academic Scientific Computation (CASC), Online Virginia Network, and others as opportunity allows

Staff Development:
• Continue to develop knowledge to support IT infrastructure and core services
• Develop ITS as business partner and orchestrator of technology in addition to IT service provider
• Align staff to strategic opportunities
  o Data-informed development
  o Data integration development
  o Web and mobile application development
  o Support of strategic initiatives such as cybersecurity academic and research infrastructure and classroom support
  o Automation of business processes and repeatable procedures
  o Development of user experience (UX) expertise and application
  o Evaluation of ODU research foundation support models
  o Classroom teaching and learning strategy and support
• Continue promotion of project management principles to support ITS and the University
• Continue process improvements, such as the software onboarding process, project intake and change control processes
• Continue to position ITS as consultant, business analyst and enabler for IT services
• Staff growth opportunities
  o Training opportunities
  o Evaluate initiation of an ITS leadership and development program
  o Develop student programs as a career pipeline opportunity

Infrastructure & Core Services
A sound, agile and secure computing and network infrastructure for research, instruction, student success and administrative operations is foundational to the advancement of the University. Robust daily operations mixed with planned disaster recovery testing creates long-term assurance of our ability to advance University goals. These core services support faculty teaching, scholarly activity, online students, mobile users, cloud services, integrated systems, creative teaching options, physical security technologies, data-informed business development and ever-advancing information security trends. Electronic identity for staff, students and others affiliated with ODU enables a seamless user experience from initial contact through the lifecycle of their roles and relationship with ODU.

Provide a reliable, available, and scalable infrastructure:
• Maintain a 5-year infrastructure plan to keep network, server, storage, and security systems current and aligned with institutional goals
• Research and deploy emerging network, server, storage, and security systems to meet performance and manageability requirements
• Research and strategically deploy dense, location-based wireless infrastructure with improved guest access
• Research and develop strategy for increase in “Internet of Things” (IoT) devices and multiple mobile devices per person, for secure and scalable support
• Review appropriate sourcing of infrastructure and core services
• Maintain a disaster recovery strategy, including training, testing and ongoing improvement
• Continued research and development of strategic cloud adoption for infrastructure services
• Continue to partner with Hampton Roads municipalities, higher education institutions, and research entities to develop robust broadband offerings

Provide a secure infrastructure:
• Continued development of a risk management program including risk reviews for new services and ongoing system risk assessments
• Facilitate executive oversight and input into the security program through groups such as the Data Management Executive Committee
• Expand adoption of multi-factor authentication to all employees using single sign-on
• Continued enhancement of capability across numerous technologies including next-generation firewalls, malware detection, intrusion detection and prevention, endpoint protection, data loss prevention, encryption, system logging, SIEM monitoring and other technologies
• Develop integration and automation capacity of numerous technologies, such as malware detection, SIEM, firewalls and other technologies
• Develop funding for an internship program for security operations and in support of Cyber Security Programs at ODU
• Implement advanced monitoring techniques to targeted higher risk resources
• Implement advanced alerts based on indicators of compromise
• Evaluate creative awareness efforts, such as phishing campaigns and role-based awareness opportunities

Provide a seamless identity and access infrastructure:
• Collaborate with Distance Learning, Continuing Education, Graduate School and the University Registrar to promote an intuitive user onboarding experience and a consistent branded user experience
• Support the use of central electronic identity for hosted services as well as other identity/access, applications and data integrations
  o Develop affiliations support
  o Leverage infrastructure to integrate Banner, ODU Research Foundation, Faculty Activity System and other authoritative sources of data
  o Adopt a strategy for API management and data integrations across multiple hosted and on-premises applications
  o Leverage middleware support and architecture to enable secure, identity-based data management tools
• Partner with Human Resources to develop single-day provisioning of electronic resources and IT services
• Partner with Distance Learning and International Programs to develop strategies to support international and online-only students within the electronic identity infrastructure
• Enhance usability of Monarch-Key single sign-on via shibboleth workflow, notifications, integration into MyODU portal, and integrations into mobile applications, reducing the dependence on MIDAS account administration

Provide a robust core service suite:
• Maintain and develop the University site license program
• Enhance desktop support for various endpoints, including mobile device support
• Develop strategy for next-generation collaboration technologies including email, presence, messaging, file sharing and web conferencing
• Maintain and develop a printing environment to support University print needs
• Continue to research opportunities to partner to develop the next-generation ODU Research Foundation support model
• Leverage cybersecurity operational expertise to support ODU’s cybersecurity research and education programs

Teaching and Learning

The Information Age is characterized by a shift from traditional industry to an economy based on information computerization. Higher Education is being impacted by this shift as data becomes accessible by virtually anyone from virtually anywhere. Teaching and learning continue to undergo transformation in the face of this high availability of information. By leveraging technology, ITS can support University goals of enhancing academic and research excellence by promoting and developing modern physical and virtual learning spaces.

Evaluate, implement, and maintain a suite of services to support instructional and educational technologies
• Develop educational technologies and tools to support the next-generation Learning Management System with interoperability and integration, personalization, analytics, advising, coaching, learning assessment, collaboration, accessibility and universal design.
• Develop and expand support for educational environments such as WordPress to support ePortfolios
• Leverage Lynda.com to support faculty and students
• Leverage team-based and collaboration technologies to support instruction and faculty-student engagement
• Support distance and online-only learning through infrastructure integration and collaborative projects with Distance Learning and the College of Continuing Education and Professional Development
• Support high impact practices and initiatives in order to leverage existing and envisioned collaboration, ePortfolio, integrative learning, proactive advising, coaching, tutoring, and emerging practices to support teaching and learning success
• Support University Open Educational Resources (OER) initiatives

Develop physical and virtual learning spaces
• Maintain a 5-year plan to keep classroom and computer labs current and aligned with institutional goals
- Develop a classroom sandbox and partner with faculty to explore and experiment with classroom technologies and design such as flipped or scale-up classrooms
- Continue to explore and expand lecture capture technologies in classrooms
- Partner with Facilities Management to explore classroom space strategies
- Integrate web conferencing and collaboration technologies in classrooms to support faculty and student collaboration
- Leverage virtual desktop infrastructure to support virtual computer labs and emerging instructional environments, such as cybersecurity classes and labs
- Continue to develop and expand classrooms and integrated technologies that align with student success goals to include attendance tracking, lecture capture and active learning designs

**Research Computing**

We look to information technology to foster academic and research excellence. It is a resource to recruit and retain elite instructors and researchers through the availability of technology-based tools that support a wide range of research and instructional efforts. Cutting edge research can be enabled through a secure, dependable and agile computing and networking environment that allows for collaboration and access to high-performance resources.

**Support research**

- Maintain a research computing strategy that aligns with Office of Research strategic plan
- Continue to develop research infrastructure to support the compute, network, storage, software and support for growing research computing needs
- Continue to support computational workshops and training to assist faculty in the use and adoption of high performance computing
- Invest in staff development and computational scientist positions for researcher support and broaden use of computational resources
- Leverage partnerships with Internet2, MARIA, SURA, CASC, and national labs
- Invest in the next-generation high performance computing environment
- Develop partnership with regional institutions for shared value on research infrastructure investments
- Participate and lead in the development of regional broadband initiatives
- Continue to partner with Academic Affairs, Interdisciplinary Studies and Research interest to expand cybersecurity infrastructure and support
- Continue to develop GIS capabilities to support academic programs and critical areas of research

**Enterprise Applications**

Enterprise applications support a range of services that make up the business of Old Dominion University. The services supported by enterprise business applications range from recruiting and supporting students and employees to the financial services that allow the University to operate. Enterprise business applications allow us to operate effectively and efficiently.
Support university priorities through enterprise applications:

- Provide business analysis, consulting, and service management for effective use of IT systems and solutions
- Identify opportunities to develop systems, processes and data access to meet and support University priorities, including
  - Growth of online programs and enrollments
  - User experience from prospective student to enrolled student
  - Student engagement, success and retention
  - Integrated planning and advising
  - Integration with Research Foundation
  - Space management
- Support the priorities of administrative units in the use of enterprise applications
  - Banner class revisions
  - BannerXE phased implementation
  - Enhance and scale Banner data integrations
- Develop and maintain enterprise GIS applications to support space and resource management

Web and Mobile:

- Support improvements to ODU’s web and portal brand, and enhance MyODU Portal user experience and adoption
- Continue developing strategies for agile device-agnostic mobile application development
- Support mobile friendly delivery of content and access to web and portal resources
- Leverage location-based services for personalized engagement
- Advance the data-informed institution through portal integrations of dashboards and visualizations
- Provide leadership in development of the Online Virginia Network website and portal
- Support the Provost for scholars.odu.edu (VIVO) initiatives
- Provide software development services for researchers through a student software development center
- Provide services for development of custom websites for University centers and affiliates

Advancement of the data-informed institution

Data is a valuable asset maintained by the University. Business intelligence (BI) is the set of techniques and tools for the transforming the raw data into meaningful and useful information for business analysis purposes. From University performance analytics to degree and course learning analytics, a strong business intelligence strategy will support the advancement of University goals, supporting agile and informed decisions. By expanding business intelligence development, we can enhance personalized student services and support, develop a standards-based learning analytics tracking and monitoring system to align actionable academic and support services interventions, measure student academic engagement, and create a complete view of student progress and activity towards success.
Develop and enhance a data model to support improved data analytics:

- BI reporting dashboards and visualization
  - Dean GPD dashboard development
  - Student success metrics and visualization development
  - Learning records store development
  - Administrative/business performance analytics
  - Space management and planning
  - Develop capability to use data from variety of sources for a unified 360 degree view
- Continue to develop governance and risk administration to attain operational efficiencies and strong data management practices, including:
  - Data management policies and procedures
  - Documented data elements
  - Data quality administration
  - Privacy practices
  - Data security awareness and input
  - Increase awareness and outreach for the use of analytics
- Research learning analytics at the course level to support advising, coaching and classroom attendance
- Partner with external schools such as Virginia Tech to leverage work done by Carnegie Mellon University, such as LearnShare and SIMON Open Learning Initiative
- Develop a custom repository, source data points, and data normalization practice to enhance other analysis tools and capability already being utilized
- Continue to leverage GIS capability to provide visualization of space data

Enhanced Personalized Services and Support

Campus life increasingly includes both the physical and the virtual experience. Whether a traditional student, an online student, faculty or part of the mobile workforce, we provide options to enhance the quality of life. We develop technical tools to enhance the online experience. We provide personalized services that focus on the customer experience and the business unit objectives. Whether a collaboration tool, or a collaborative approach to service management, ITS is committed to improving the quality of life for everyone who is affiliated with Old Dominion University.

Develop and facilitate the use of unified communications and collaboration tools, such as WebEx, Box, WordPress and MyODU, for specific use-cases:

- Develop an environment to support a virtual office for students to receive services
- Develop tools to support student engagement in online webinars and meetings
- Facilitate distance student business via WebEx, and explore embedding collaboration tools within advisor tools and on the ODU website
- Utilize communication and collaboration tools to support faculty, staff and student recruitment, telecommuting, meeting facilitation, etc.
Enhance personalized services and support

- Continue to foster a customer-centric focus and develop strategies to improve user experience
- Enhance the TSP program through alignment with the ITS Help Desk and more strongly coordinated first and second tier support
- Enhance knowledge and understanding of the web support structure and services
  - Enhance partnerships in developing and maintaining the web environment
- Adapt targeted ITIL standards to our service delivery and support
- Enhance user experience (UX) in a variety of ways:
  - Course search
  - Online forms
  - Program listing and search
  - Program page improvements
  - Push notifications and communication
  - Events and announcement improvements
  - ServiceNow implementation and development
  - ODU Mobile app development
  - Evaluate user experience across multiple services
  - Develop wayfinding to support user experience improvements
  - Develop feedback opportunities for IT services and support through town-hall, micro-survey, personal engagement and other avenues
  - Establish enterprise service management across all support areas of the University, providing a comprehensive and personalized support structure for students and a 360 view of student support for student success administrators
  - Improve student interaction through business process review and online forms with workflow processes
  - Utilize service data analytics for continuous support improvement
- Develop service management processes that complement and support project management practices