**UNO Research Computing Services and Support**

The mission of UNO’s Information Technology department includes the provision of comprehensive and synergistic IT support to enable and enhance UNO’s urban mission in all areas of teaching, learning, and research. The department provides a redundant and reliable IT infrastructure for all the University mission critical computing systems, including reliable on- and off-campus networks, university-class computational resources for campus researchers and overall reliable state-of-the art computing technologies for students, faculty, and staff.

Services provided for researchers at the University include support for core infrastructure, shared servers, networks, and communication systems. Some of these services and systems, including links to Internet2 and LONI high-performance research networks are outlined next.

**Data Center**. A state-of-the-art Data Center (with UPS and backup generator) that houses 285 servers providing support for DNS, DHCP, LDAP, Active Directory, identity management, messaging and email, ERP systems; SharePoint; system backup services; Storage Area Network (with over 200TB of storage); server virtualization; and several other services and systems for the support of the UNO Library and Colleges.

**Campus Network**.  UNOnet provides wired, wireless, and remote network access to the main campus as well East campuses.  The network consists of a 10 Gigabit Ethernet core interconnecting all buildings on the main campus via a fiber-optic gigabit backbone.  Approximately 5,000 individual network connections are serviced on the main campus at data rates of 100 to 1000 Mb/sec.   Wireless connectivity is available throughout all major areas on campus.

**Research Computing**.  The University is a member of the Louisiana Optical Network Initiative (LONI) and an Affiliate Member of UCAID (Internet 2).  LONI is a state-of-the-art, fiber optics network that runs throughout Louisiana, and connects Louisiana and Mississippi research universities to one another as well as Internet2.   Through LONI, researchers have access to one of the most powerful supercomputing resources available to any academic community with over 85 teraflops of computational capacity from systems based at Louisiana universities.  In addition, LONI provides access to the TeraGrid community, the world's largest, most comprehensive distributed cyber infrastructure for open scientific research.  Through UNO’s association with LONI, UNOnet currently has access to the following Internet services: Commodity Internet (I1) at 1GB/sec, Internet2 (I2), including 2 links at 20 GB/sec, and 2 links at 100 GB/sec (for Supercomputer clustering and Grid based computing support). To request an account, UNO researchers can visit [www.loni.org](http://www.loni.org).

**Academic Computing**. As a Carnegie Research University, UNO is committed to the process of discovery.  To assist faculty, researchers and graduate students, UNO licenses several key mathematical, scientific, and statistical applications managed by Information Technology.

**Mathematical and Scientific Applications.**

**MATLAB** integrates mathematical computing, visualization, and a powerful language to provide a flexible environment for technical computing.  UNO’s Matlab license also includes **SIMULINK** and a variety of Toolboxes for Signal Processing, Communications, Financial, Statistics, and others.

**Mathematica** is the tool of choice for scientific research, in engineering analysis and modeling, from simple calculator operations to large-scale programming and interactive document preparation. **MATLAB** and **Mathematica** are installed in the Faculty Staff Resource Center (FSRC) in addition to all Student Open Labs managed by UNO’s Information Technology and several Departmental Labs across campus.

**Statistical Applications**.

To assist faculty, researchers and graduate students with quantitative analysis, UNO licenses **SAS** (Educational Analytical Suite with over 20 products for Statistics, Forecasting, and Optimization) and **SPSS** (including Advanced Statistics, Forecasting, Regression, and **AMOS**) for statistical computing.  These applications are installed in the FSRC in addition to all Student Open Labs managed by UNO’s Information Technology and several Departmental Labs across campus.

In addition, under current license agreements, **Mathematica**, **SAS**, and **SPSS** are also available for home use for UNO faculty and students.

**Simulation Applications (and others).**

**ANSYS** is a general purpose software, used to simulate interactions of all disciplines of physics, structural, vibration, fluid dynamics, heat transfer and electromagnetic for engineers.

**Qualtrics** it is a web-based research surveying software that allows for the creation of online surveys which can be distributed bearing the UNO logo.

For questions or more information about these systems and services, please email helpdesk@uno.edu