Help Desk: 200 Page Hall
Email: eoshelp@ncsu.edu
http://www.eos.ncsu.edu
919-515-2458

College of Engineering
http://www.engr.ncsu.edu

Links to Computing Information

SOC: http://www.eos.ncsu.edu/soc
E115: http://www.eos.ncsu.edu/e115
E101: http://courses.ncsu.edu/e101
Labs: http://www.eos.ncsu.edu/labs
Software: http://www.eos.ncsu.edu/software
Remote Access:
http://www.eos.ncsu.edu/remoteaccess
VCL: http://vcl.ncsu.edu
Webmail: http://webmail.ncsu.edu
Antivirus: http://www.ncsu.edu/antivirus
NCSU Help Desk: http://help.ncsu.edu
Accessibility: http://www.ncsu.edu/it/access

Guide to Eos and Unity Computing
by Dr. Ellen McDaniel
http://www.eos.ncsu.edu/guide
and in the NCSU Bookstore

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Spring 2006

ENGINEERING STUDENT COMPUTING

INFORMATION TECHNOLOGY AND ENGINEERING COMPUTER SERVICES (ITECS)
COLLEGE OF ENGINEERING
NORTH CAROLINA STATE UNIVERSITY

WHAT IS EOS?

Eos is the common computing environment that the College of Engineering shares across its departments and curricula. Named in 1991 for the Greek goddess of the dawn, *Eos* was originally built on technologies developed in MIT's Athena Project and Carnegie Mellon University's Project Andrew. Today, Eos is part of an expanded project called *Unity* that serves all of NCSU. The rich resources of Eos and Unity together have brought recognition to the university and the college. *Forbes.com* and *The Princeton Review* in 2006 named NCSU one of "America's Most Connected Campuses" for its "cutting-edge technology."

STUDENT-OWNED COMPUTING (SOC)

The College of Engineering expects all entering freshmen in fall 2006 to own a laptop or tablet PC that meets college specifications. Students who are unable to bring laptops will be registered for lab sections of the two introductory engineering courses, E101 and E115. The ITECS office, which provides IT services to the college, selects a variety of models (both PC and Apple) with educational pricing and makes them available for purchase at the NCSU Bookstore. More information about laptop purchases and support of student-owned computing can be found at *http://www.eos.ncsu.edu/soc.*

E115 AND EOS

From its beginning, Eos has been taught to freshmen in *E115: Introduction to Computing Environments*. Eos was first taught on UNIX workstations in the 1990s, on Linux lab computers since 2000, and on laptops in the Student-owned Computing (SOC) pilot program since 2001. Beginning in fall 2006, nearly all E115 classes will be taught on student-owned laptops, which can run Linux, Mac OS X, or Windows, as the student chooses. E115 prepares students for engineering computing and gives them hands-on experience in the maintenance and effective use of their own computers to interface with Eos and its resources.

EOS LABS

Eos has always been heavily lab-based in order to expose students to industry-standard applications that may not be available on individually owned computers. Labs also provide high-end hardware and peripherals, shared printing, operator assistance, and an environment in which collaboration on computing projects is encouraged.

The college has 19 general Eos labs with workstations that run software for Microsoft Windows, Sun Solaris, and Red Hat Linux. Students from all engineering departments can use these labs (*http://www.eos.ncsu.edu/labs*).

REMOTE ACCESS AND VCL

Among the specialized services that the college has developed is the Virtual Computing Lab (VCL, *http://vcl.ncsu.edu*). VCL is a new type of lab that is available via remote access to students working in labs, at home, or wirelessly on their personal laptops. It was designed to address the needs of both local and distance students and faculty, who require 24/7 access to Eos applications, file storage, and services. Through VCL, users connect to Windows, Solaris, or Linux computers and run the applications they need remotely. VCL is an ongoing and joint project of the College of Engineering and NC State's High-Performance Computing facility.

EOS SOFTWARE

Eos has an unparalleled library of engineering software, available both in labs and via remote access. When the license permits, applications can also be installed on student computers, see *http://www.eos.ncsu.edu/soc/software*. Eos runs AFS, a location-independent file system that delivers these applications to users. AFS also provides user file storage with nightly backup so that students can always get to their files. A selected list of software appears at the right. The full application catalog is at *http://www.eos.ncsu.edu/software*.

Selected Licensed Software on Eos	Windows	Solaris	Linux	Mac
Access Database (Microsoft)	√			
Acrobat Professional (Adobe)	√			√
ADAMS Mechanical System Simulation (MSC)	√	√		
AMPL/CPLEX Optimization Modeling (ILOG)	√	√	√	
ANSYS Finite Element Analysis (Mallett)	√	√	√	
ArcInfo and ArcView GIS (ESRI)	√	√		
ARENA/Optquest Simulation (Rockwell)	√			
AspenONE Engineering Suite (Aspentech)	√			
AutoCAD Computer-Aided Design (Autodesk)	√			
AutoMod Simulation (Brooks)	√			
AVR Studio Microcontroller Dev. (Atmel)	√			
Cadence Circuit Design/Simulation (Cadence)		√	√	
CADRA Computer-Aided Design (SofTech)	√	√		
Compilers (C++, Java, Perl, Php, Python, Tcl)	√	√	√	√
COMSOL Multiphysics (COMSOL)	√			√
COSMOS Design Analysis (SolidWorks)	√			
Dreamweaver Web Publisher (Macromedia)	√			√
Fireworks Web Graphics (Macromedia)	√			√
Flash Web Animation (Macromedia)	√			√
Fortran 90 and 95 NAGware Compilers (NAG)	√	√	√	
Framemaker Multi-Channel Publisher (Adobe)	√	√		
HSPICE Circuit Simulator (Synopsys)		√	√	
JMP Statistical Visualization (SAS)	√			√
Lindo Optimization, Lingo Modeling (LINDO)	√			
Maple Symbolic Mathematics (Waterloo)	√	√	√	√
Mathcad Calculation Environment (Mathsoft)	√			
Mathematica Symbolic Mathematics (Wolfram)	√	√	√	√
MathType Equation Editor (Design Science)	√			√
Matlab Computation & Toolboxes (Mathworks)	√	√	√	√
Microstation with Geopak (Bentley)	√			
Moldflow Plastics Advisors (Moldflow)	√			
NExS Engineering Spreadsheet (GreyTrout)		√	√	
Office Excel, Powerpoint, Word (Microsoft)	√			√
OPNET Network Modeler (OPNET)		√	√	
PhotoShop CS2 Image Design (Adobe)	√	√		√
Primavera Project Planner (Primavera)	√			
Pro/Engineer Wildfire CAD (Parametric)	√	√	√	
Project for Project Management (Microsoft)	√			
RSLogix Logic Programming (Rockwell)	√			
SAS Data Analysis Applications (SAS)	√	√	√	√
Silvaco Integrated Circuit Design (Silvaco)		√	√	
SolidWorks CAD (SolidWorks)	√			
StarOffice Office Applications (Sun)	√	√	√	
SuperPro Designer (Intelligen)	√			
SurfCAM 5-Axis Educational CAM (Surfware)	√			
Synopsys Digital Circuit Synthesis (Synopsys)		√		
Tecplot Interactive Plotting (Tecplot)	√	√	√	√
Timberline Estimating (Timberline)	√			
TK Solver Equation Solver (UTS)	√			
Visio Professional Diagramming (Microsoft)	√			
VisualAge Smalltalk Object-orient. Prog. (IBM)	√	√		
Visual MODFLOW Pro (Waterloo Hydrogeologic)	√			
Visual SlickEdit Editor (SlickEdit)	√	√	√	√
Visual Studio .NET (Microsoft)	√			
WaterCAD GIS (Haested)	√			
*X-Win32 X Windows App Server (Starnet)	√			
*All Solaris and Linux applications can be run from the Windows platform via X-Win32				