

HP recommends Windows® 7.

HP WORKSTATIONS FOR HIGHER EDUCATION



HP Z210 SFF (Small Form Factor) Workstation



Give your school an education edge

HP Workstations can help higher education institutions attract, motivate, and keep students. Offering a range of premium technology and tools that most students can't match at home, HP Workstations prepare students for their careers as soon as they enter the classroom—creating better problem solvers, critical thinkers, and collaborators.

The HP Difference

HP Z Workstations are engineered to optimize the way hardware and software components work together, delivering massive, whole-system computational power that helps maximize your student's productivity and makes creating digital media, 3D design and visualization faster and more efficient than ever before.

- **Innovation:** Enjoy next-generation technology, including the award winning Z Workstation design, to help your student's create and visualize even the most complex designs. This revolutionary design brings a tool-less chassis, advanced cooling and choice of power with up to 90% efficient power supplies.
- **Performance:** Advanced compute and visualization power help your student's beat deadlines, and meet expectations. At the heart of HP Z Workstations are the new Intel® processors with advanced processor performance technologies, such as Intel® QuickPath, Intel® Hyper-Threading¹ and Intel® Turbo Boost². Intel® Turbo Boost is designed to enhance the base operating frequency of processor cores,

providing more processing speed for single and multi-threaded applications. The HP Z Workstation cooling design enhances this performance.

- **Reliability:** HP product testing includes application performance, graphics and comprehensive ISV certification for maximum productivity. You can be confident with HP and your ISV solution.
- **Personal productivity:** Only HP provides unique tools to improve workstation user productivity, including: HP Performance Advisor, a workstation software wizard with helpful advice on recommended settings and performance; and HP Remote Graphics Software, a high performance real-time 3D screen sharing and remote access application.

Enhance the student experience

Next-generation technology and cutting-edge applications provide a professional-grade classroom experience, eliminating the sluggish program performance often experienced with mainstream desktops and notebooks. HP Workstations are designed to run out of the box in high-demand environments—this means less downtime and minimal IT support requirements, so you can focus on teaching and keep students engaged.



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Prepare students for professional careers

HP has longstanding relationships with the leading application partners in the engineering, oil and gas, financial, and media and entertainment fields your students are training to join. HP Workstations are tested and designed to work with these solutions, providing a hands-on professional-grade

experience right in the classroom. For example, HP thoroughly tests and certifies each HP Workstation for Autodesk® applications. Coupled with HP’s engineering expertise, HP Workstations provide the right combination of innovation, reliability, and performance to support higher education’s student training needs for years to come.

Sample areas and applications for HP Workstations

To find the recommended configurations based on your application software package, please visit www.hp.com/go/workstationfinder.

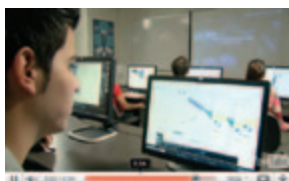
Subject/department	Area of use	Suggested HP Workstation	Type of software
Engineering, mechanical sciences	High-end CAD and CAE, 3D rendering, multi-display data visualization systems, simulations (finite element analysis, fluid dynamics), computer game programming	HP Z210 CMT (low end), HP Z400 (mid range), HP Z600 or HP Z800 (high end)	Autodesk®, Dassault Systemés®, Bentley®, Siemens®, PTC®, Ansys®
Natural sciences	Medical illustration, technical calculations, geographical information systems	HP Z600 or HP Z800	Adobe®, PTC, ESRI
Mathematics	Technical calculations	HP Z600 or HP Z800	PTC, MATLAB
History	3D-animation strategy games	HP Z210 CMT, HP Z210 SFF or HP Z400	Autodesk
Performing arts	Video editing, audio/music creations, photo and multimedia, computer animation	HP Z210 CMT, HP Z210 SFF or HP Z400	Adobe, Avid, Sony, Cakewalk, Autodesk
Visual/fine arts	Desktop publishing, photo and multimedia, computer animation	HP Z210 CMT, HP Z210 SFF, HP Z400 (low end) to HP Z800 (high end) or HP Z600 (small work spaces) HP Z800 (large work spaces/largest projects)	Adobe®, Dassault Systemés, Autodesk, QuarkXPress
Journalism	Photo and multimedia desktop publishing	HP Z210 CMT, HP Z210 SFF, HP Z400 or HP EliteBook	Adobe®, QuarkXPress
Campus planning and facilities management	Entry-level (2D) to mainstream (3D) AutoCAD, architecture, engineering	HP Z210 CMT (2D), HP Z210 SFF (2D/3D), HP Z400 (mainstream) or HP EliteBook (mainstream)	Autodesk, PTC, Bentley
Public relations	Photo and multimedia, desktop publishing, web authoring	HP Z210 CMT, HP Z210 SFF, HP Z400 or HP EliteBook	Adobe®, QuarkXPress
Alumni relations and fundraising	Large spreadsheets, data mining and statistical analysis	HP Z210 CMT, HP Z210 SFF, HP Z400 or HP EliteBook	Microsoft, SAS, SPSS



“We decided to try the Z-series based on the performance rating of the CPUs. According to the ratings we’ve seen, you get a 30% to 40% increase in performance for a very small difference in price. Our students and faculty are definitely pleased with the speed and graphics capability.”

—Emil Henry, manager of information systems, College of Engineering and Computer Science, California State University, Northridge, Calif.

Watch the CSUN - California State University Northridge video



Meet the HP Workstation family

The HP Workstation family takes innovation, performance, and reliability to the next level—to help your staff, instructors, and students work better and smarter. HP Workstations are available in a wide range of configurations, from entry-level to powerhouse.

HP Z210 CMT and Z210 SFF Workstation

The HP Z210 CMT offers advanced workstation power and productivity at a price that allows you to offer a workstation instead of traditional desktop computing systems in administrative areas, labs, and classrooms. The HP Z210 Small Form Factor (SFF) Workstation is surprisingly nimble, dynamic, and affordable, which is well suited to compact work environments such as cubicles or shared desks. The HP Z210 Workstations offer up to a 20% to 67% performance improvement* depending on the application used over the predecessor series products. Aggressively-priced, the HP Z210 Workstations help you provide a workstation-class experience and pass the savings on to your students.

HP Z400 Workstation

The HP Z400 Workstation delivers enhanced multi-processor and high memory performance in both classroom and administrative areas, to help transform how your staff, instructors, and students work. Accelerate research with your own personal super computer. Enter the world of massively parallel computing at a workstation price with an HP Z400 and NVIDIA Tesla GPU compute processor. Run GPU accelerated applications such as AMBER, MATLAB and gain speedup, throughput, accuracy and do more advanced science.

HP Z600 Workstation

The HP Z600 Workstation packs compute and visualization power to help your instructors and students work faster and meet their due dates. It delivers maximum performance in a small, quiet design that integrates well into environments (like multimedia labs and design/production studios) where performance and quiet acoustics are equally important.

HP Z800 Workstation

The HP Z800 Workstation delivers ultimate performance where you need it—in high-end design and engineering tasks, animation and Digital Media and Entertainment (DME) projects, or supporting editing and video bays. The powerhouse HP Z800 can handle the biggest, most complex engineering and design projects and offers the expandability, performance, and data storage required by power users.

HP EliteBook Mobile Workstation

The HP EliteBook 8560w and 8760w Mobile Workstations deliver workstation-caliber graphics and performance for students, instructors, and staff who need to run demanding applications on the go. The industrial design is well-suited for field and lab work, meeting military standards for vibration, dust, humidity, altitude, and high temperatures.

HP Performance Monitors

HP Performance Monitors offer world-class display technology designed for compatibility with the full line of HP Workstations. They offer a range of connectivity (USB/DVI/DisplayPort) with the latest peripherals and graphics devices, and environmental responsibility with ENERGY STAR® and EPEAT® certifications. The new HP ZR widescreen monitors feature enhanced color accuracy at ultra-wide viewing angles and full HD⁵. The HP DreamColor monitor is based on HP DreamColor Engine technology and is great for low-light design environments like animation and video production facilities.



All HP Workstations are thoroughly tested and certified for AutoCAD and other Autodesk applications.* Autodesk has approved HP Z Workstations and authorized HP to carry the official AutoCAD certification label.

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"We chose HP Workstations for our trading floor to mirror the professional experiences that a student might have in the corporate world."

—Dan Sheehan, Director of Client Services, Bentley University

Check out the Bentley University Story



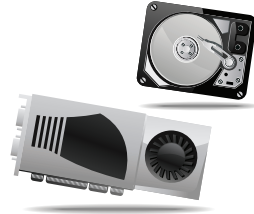
HP Workstation Extras

HP Workstations don't stop at the hardware—they also include a range of software and tools designed to help higher education markets provide a complete technology solution.

HP Stable and Consistent Offerings

With HP Stable & Consistent Offerings, you can choose long lifecycle hardware and software components when you customize select HP Workstations, with the assurance that they'll last alongside it, from launch until retirement (approximately three years). Choose from a range of options that include:

- Processors
- Graphics cards
- Hard drives
- Optical drives
- Memory
- Operating systems
- Peripherals



HP Remote Graphics Software

HP Remote Graphics Software (RGS) is an advanced 3D screen-sharing utility that allows remote access and workstation sharing. For engineering and design students looking to speed the design process, HP RGS enables real-time sharing of high-resolution imagery so creative teams from multiple remote sites can collaborate instantly, regardless of remote distances. For more information see the HP Remote Graphics Software Users Guide at www.hp.com/go/rgs

HP Performance Advisor

HP Performance Advisor makes it easy to stay up and running and helps identify trouble spots for your IT staff. The tool monitors system resource usage over time to identify bottlenecks and provides a detailed configuration report so your IT department can easily see what's on each system. For more information, visit www.hp.com/go/performanceadvisor

HP Support Assistant

HP Support Assistant makes it easier than ever to own and use an HP Workstation. It comes pre-installed on every HP Workstation with the latest version of Windows® 7⁶ and offers automatic updates, reminders, and self-service utilities to help resolve common issues.

Partner Relationships

HP resources and our relationships with top ISV partners like Autodesk and Adobe, graphics vendors, chip suppliers and Microsoft provide a consistent application, operating system, hardware and graphics technical direction. This results in broader, more dependable application oriented technology choices.

HP offers higher education a full range of HP Workstation hardware, software, tools, and solutions so you can provide the best technology available to your best and brightest. For more information, please visit www.hp.com/go/wseducation

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Screen images courtesy of Autodesk.

* Certification based on testing of specific systems configurations. Requires a certified graphics card to be installed. See <http://www.autodesk.com/acad2012graphics> for a complete list of certified graphics cards.

** Based on benchmark testing done at HP's Workstation Technical Consulting Labs, with workstation market applications including the SPECcap benchmarks for Pro/ENGINEER Wildfire 2.0, SolidWorks 2007, 3ds Max V9, Maya 2009 and LightWave as well as the Cadalyst C2010 v5.3 Benchmark Test and SunGard 4, comparing an HP Z200 Workstation with an Intel® Core™ i5-680/Intel® Xeon® X3480 processor to an HP Z210 Workstation with an Intel Core i7-2600/Intel Xeon E3-1280 processor.^{4,5} All other system configurations were selected to be as equal as possible. Not all applications may experience similar performance improvements.

- 1 Intel Turbo Boost technology requires a PC with a processor with Intel Turbo Boost capability. Intel Turbo Boost performance varies depending on hardware, software, and overall system configuration. See www.intel.com/technology/turboboost for more information.
- 2 The hyper-threading feature is designed to improve performance of multi-threaded software products; please contact your software provider to determine software compatibility. Not all customers or software applications will benefit from the use of hyperthreading. Go to <http://www.intel.com/info/hyperthreading/> for more information including which processors support HT Technology.
- 3 Multi-core technologies are designed to improve performance of multithreaded software products and hardware-aware multitasking operating systems and may require appropriate operating system software for full benefits. Not all customers or software applications will necessarily benefit from use of these technologies.
- 4 64-bit computing on Intel architecture requires a computer system with a processor, chipset, BIOS, operating system, device drivers and applications enabled for Intel® 64 architecture. Processors will not operate (including 32-bit operation) without an Intel 64 architecture-enabled BIOS. Performance will vary depending on your hardware and software configurations. See www.intel.com/info/em64t for more information.
- 5 Intel's numbering is not a measurement of higher performance.
- 6 Windows 7 systems may require upgraded and/or separately purchased hardware and/or a DVD drive to install the Windows® 7 software and take full advantage of Windows 7 functionality. See www.microsoft.com/windows/windows-7 for details.

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