

> Communication Tools

	BlackBoard 6	WebCT 4.0 Campus Edition
Discussion Forums	Discussions can be viewed by date and by thread. Posts can include attachments and URLs. Posts can be either plain text, formatted text, or html. Instructors can determine the level of involvement (read, write, or post anonymously) for students and can allow students to create groups. Discussion threads are expandable and collapsible to view an entire conversation on one screen.	Discussions can be viewed by date, by thread, and by title. Instructors can determine the level of involvement (read, write, or post anonymously) for students. Instructors may create separate discussion environments for small groups. Posts can include attachments and URLs.
File Exchange	Students have a private folder into which they can upload and download files. Students can upload files to a shared group folder. Students can submit assignments using drop boxes. Instructors can upload files to the personal folder of a student.	Students can submit assignments using drop boxes. Students can upload files to a shared group folder.
Internal Email	Students must have an Internet email address. Students use a searchable address book to email individuals and groups and can attach files to emails.	Students can use the Internal email feature to email individuals and groups. Students can attach and archive files and can forward messages to external email accounts. Students can search email subject lines.
Online Journal/Notes	Students can make private notes about their course.	Students can attach notes to any page. Students can combine their notes with the course content to create a printable study guide.
Real-time Chat	The chat tool supports private messages. The system creates archive logs for all chat rooms. The virtual classroom tool supports a structured way for students to ask questions and instructors to provide answers.	The Java-based chat tool supports private rooms and private messages. The system creates archive logs for all chat rooms. The chat tool supports up to four simultaneous group discussions.
Video Services	The software supports video streaming.	
Whiteboard	The software supports a whiteboard that can have multiple instances in the same course. The whiteboard supports mathematical symbols, and image and PowerPoint uploading . The software supports group web browsing . The software can archive a recording of whiteboard sessions for future viewing.	The software supports a whiteboard.

> Productivity Tools

	BlackBoard	WebCT
<u>Bookmarks</u>		Students can create bookmarks in a private folder.
<u>Calendar/Progress Review</u>	Instructors can post course-related events and announcements in the course calendar. The instructor can assign tasks by using the calendar and the instructor can enable an option so that the student can check their status at any point in a course. Students can check their grades on submitted assignments as well as compare their grades against the overall class performance. Students have a personal home page that lists all courses in which the student is enrolled and all course and system-wide events and tasks.	Instructors and students can post events and announcements in the online course calendar. Students can view their completed and pending course readings and activities. Students can view their grades. Students can keep track of all their assignments, deadlines, and due dates in an online course calendar.
<u>Orientation/Help</u>	The system includes a product overview. Students can access a student manual, the product knowledge base, and the product reference center.	The system includes an online student guide. Students can access online help information. The system includes an online orientation course to help students learn how to use the system.
<u>Searching Within Course</u>	Students can search all course content and chat or virtual classroom session recordings by name or dates.	Students can search all course notes, discussion threads, and email subject lines in their course.
<u>Work Offline/Synchronize</u>	Instructors can publish course content on a CD-ROM that can be linked to dynamically from within the online course or viewed offline.	Students can compile and download the content for an entire course into a format that can be printed or stored locally. Upon re-entering a course, students have the option of resuming at the last page viewed.

> Student Involvement Tools

	BlackBoard	WebCT
<u>Groupwork</u>	The software supports assigning students into groups by the instructor. Each group can have its own shared file exchange, private group discussion forum, synchronous tools, and group email list.	Instructors can assign students to groups or the system can randomly create groups. Each group can have its own shared group presentation folder and discussion forum.
<u>Self-assessment</u>	The software can create practice tests that use the following types of questions: True/False, Fill in the Blank, Matching, Multiple Choice, Multiple Select, Ordering, and Short Answer/Essay. Questions can be imported from existing test banks or can be both built with the tool. The software can provide feedback; reveal detailed results and correct responses on a per question basis. Instructors can also create self-assessments that allow multiple submissions.	Instructors can create self-assessments. The system automatically scores multiple choice, true/false, and multiple answer type questions and can display instructor-created feedback. Instructors can use the MathML equation editor to enable students to enter and edit mathematical notations.
<u>Student Community Building</u>	Students can create online clubs, interest, and study groups at the system level.	Students from different courses can interact in a system-wide chat room. Students can create online clubs, interest, and study groups at the system level.
<u>Student Portfolios</u>	Students can create a personal home page. Personal home pages may include their photo, personal information, and links to important websites.	Students can create a personal home page.

Support Tools

> Administration Tools

	BlackBoard	WebCT
<u>Authentication</u>	Administrators can protect access to individual courses with a username and password. The system can also authenticate against an external LDAP server, NT domain server, Active Directory or using the Kerberos protocol.	Administrators can protect access to individual courses with a username and password. Access can also be restricted based on IP address. User logins can be encrypted with SSL. The system has a password reminder option. The system can also authenticate against an external LDAP server or using the Kerberos protocol. Administrators can set up fail-through authentication against a secondary source (e.g. the system's own database) in the event that the primary source (e.g. LDAP server)fails.
<u>Course Authorization</u>	Instructors can assign different levels of access to their course based on the following pre-defined roles: instructors, students, designers, teaching assistants, tutors, and guests. Instructors or students may be assigned different roles in different courses. Instructors may also assign a user to an observer role to view the course activities of a particular student.	Administrators can assign different levels of access to the system or courses based on the following pre-defined roles: instructors, students, designers, teaching assistants, and system administrators. Instructors or students may be assigned different roles in different courses.
<u>Hosted Services</u>	The product provider offers a hosted system that includes managed software installation, redundant Internet connections, redundant and conditioned power, 24x7 monitoring, nightly tape backups, and a secure facility.	The product provider offers a hosted system for both standard and premium licenses.
<u>Registration Integration</u>	Instructors can batch add students to a course using a delimited text file or students can self-register. The software (version 5 Level 2 and higher) supports data interchange with student information systems through an event-driven API or through their tool which is based on scheduled system extracts. The system now supports the use of SOAP-based data integration. The system supports Secure Socket Layer transactions.	Administrators can batch add students to the system using a delimited text file and then instructors can add students to their courses or students can self-register. Administrators can transfer student information bi-directionally between the system and an SIS. The software supports integration with SCT Banner, Campus Pipeline, Datatel, or customized integration with other SIS or portal systems. The software is compliant with the IMS Enterprise Specification for Student Data (Institution License only).

> Course Delivery Tools

	BlackBoard	WebCT
Automated Testing and Scoring	<p>Instructors can create true/false, multiple choice, ordering, fill-in-the-blank, matching, short answer/essay questions. Instructors can also import questions from existing test banks. Questions can contain images. Instructors can create different levels of feedback messages. Instructors can import questions from existing test banks. Instructors can also create survey questions. The system can randomize the questions in a test or can use selective release criteria.</p> <p>Instructors can set dates and times for when students must access tests. Instructors can set a time limit on a test. Instructors can use passwords to restrict access to tests.</p> <p>Instructors can use the MathML equation editor to enable students to enter and edit mathematical notations. Instructors can create unit-specific tests or course-level tests. Instructors can override the automated scoring and determine how to communicate test results to students. Instructors can differentially weight tests and create grading rules.</p>	<p>Instructors can create automatically scored true/false, multiple choice, matching, calculated answer, and short answer questions. Instructors can also create essay questions. Instructors can import questions from existing test banks. Instructors can set a time limit on a test. Instructors can use the Mathematics Markup Language equation editor to enable students to enter and edit mathematical notations. Instructors can also use IP addresses to restrict access to tests. The system supports proctored exams.</p>
Course Management	<p>Instructors can selectively release assessments, announcements and other materials based on previous course activity or specific start and end dates. Instructors can specify start and stop dates for the entire course.</p>	<p>Instructors can personalize access to specific course materials based on group membership, previous course activity, or student performance. The system can synchronize with course dates defined by the institutional calendar.</p>
Instructor Helpdesk	<p>Instructors can access an online instructor manual, product knowledge base, and reference center, and contact the technical support helpdesk if their organization purchased technical support.</p>	<p>Instructors can access the online help manual, context sensitive help, and numerous instructor support communities to share information in a number of discipline-specific or general interest forums. Instructors can subscribe to an instructor mailing list. The system includes a simulation-based online course to help instructors learn how to use the system. Instructors can take online courses about instructional design strategies for online courses and how to use the product.</p>

	BlackBoard	WebCT
<u>Online Grading Tools</u>	<p>Instructors can mark assignments, and short answer tests online.</p> <p>Instructors can add the grades for offline assignments to the online gradebook. Instructors can view grades in the gradebook by assignment, by student, and for all students on all assignments.</p> <p>Instructors can create import and export a comma-delimited version of the gradebook from/to an external spreadsheet program. Instructors can provide feedback on all assignments through annotations.</p> <p>Instructors can search the gradebook to find all students who meet a specific performance criteria, mark, or status such as exam completion. Instructors can manually edit all grades. Instructors can create a course grading scale that can employ either percentages, letter grades or pass/fail metrics.</p> <p>When an instructor adds an assignment to the course, the software automatically adds it to the gradebook. Instructors can delegate the responsibility for grading assignments. The software automatically calculates the average grade on each assignment.</p>	<p>Instructors can mark all assessments not automatically scored online. Instructors can assign partial credit for certain answers. Instructors can add the grades for offline assignments to the online gradebook. Instructors can import and export a comma-delimited version of the gradebook from an external spreadsheet program. Instructors can manually edit all grades. Instructors can create a course grading scale. Instructors can delegate the responsibility for grading assignments. The gradebook supports the creation of custom columns which can contain either grade information or other instructor-determined details.</p>
<u>Student Tracking</u>	<p>Instructors can get reports showing the number of times and date on which each student accessed course content, discussion forums and assignments. Instructors can set a flag on individual course components to track the frequency with which students access those components.</p>	<p>Instructors can get reports showing the number of times, time and date on which, and frequency with which each student or all students in a course, as an aggregated group, accessed course content, specific course units and discussion forums.</p> <p>Instructors can also get a report showing the duration of time each student spent on course content, specific course units and discussion forums. Instructors can share this tracking information with students.</p>

> Curriculum Design

	BlackBoard	WebCT
Accessibility Compliance	To comply with Section 508 of the US Rehabilitation Act, the software implements the following features: a tool for instructors to add alt tags to uploaded images, alt tags on all system images, data tables that are optimized for use with screen readers, documentation to assist students and instructors in the use of the assistive technologies the software supports, appropriately titled framesets that describe the functionality of the frames layout, and support for the JAWS screen reader technology.	To comply with Section 508 of the US Rehabilitation Act, the software implements the following features: alternate text for all non-text elements, content available in a high contrast color scheme, keyboard access to chat and whiteboard tools, support for the JAWS screen reader technology, and allowing invisible navigation links to be used by screen readers.
Course Templates	Instructors can use templates to create course content. The templates include a rich text content editor. Instructors can categorize course content as announcements, calendar entries, course units, discussion forums, handouts, instructor biography, lecture notes, links, syllabus and course descriptions, tips, FAQs and resources.	The software provides support for template-based course creation. The templates include a WYSIWYG content editor. Instructors can use templates to create syllabus, course descriptions, course units, discussion forums, glossaries, calendar entries, tips, chat, and resources. Instructors can categorize course content as calendar entries, course units, discussion forums, glossaries, syllabus, tips, and resources. Course content may be uploaded through a form. Course content may also be exported for later-use.
Curriculum Management		
Customized Look and Feel	Institutions can apply their own institutional images, headers and footers across all courses. Instructors can change the navigation icons and color schemes and the order and name of menu items for a course.	The system provides default course look and feel templates. Institutions can create their own look and feel templates across the entire system, including their own institutional logos, headers, and footers. Instructors can alter the appearance of their course.
Instructional Design Tools	Instructors can create both linear and nonlinear learning sequences using a content library.	
Instructional Standards Compliance	The system supports the following standards: SCORM 1.2, IMS Metadata 1.2.1, IMS Content Packaging 1.1.2 and Microsoft LRN 3.0. The system includes tools to facilitate the migration of course content between different versions of the software.	The system can import and export course content using the IMS Content Packaging standard. The software supports the IMS Content Packaging 2.0 standard. The product provider will work with the institution to migrate existing courses into the system.

Technical Specifications

> Hardware/Software

	BlackBoard	WebCT
<u>Client Browser Required</u>	The software supports Internet Explorer 5.5+, Netscape 4.78+. Students can download course content to a PDA.	The software requires Internet Explorer 5.1+, Netscape 4.76 and 6.2.1, and AOL 7.0. Javascript must be enabled in all browsers. Internet Explorer 5.5 SP1 is not supported.
<u>Database Requirements</u>	The system requires either SQL Server 2000 on Windows 2000 Server, or Oracle8 on Solaris. The system also supports MySQL databases.	
<u>Server Software</u>	The following server software tools are available: log rotation and log consolidation, a secondary database to provide customizable reports, and course archive and restore. The log tools can be accessed over the Web. The software requires Apache web server software or Microsoft Internet Information Server (IIS) software.	The following server software tools are available: resource monitoring, crash recovery, backup of a course to a desktop machine. The server administration tools are accessed over the Web. The software requires Perl 5.6.1 and Apache 2.0 both of which are bundled with the system. Typically, local administrators install the software. The product provider offers fee installation consultation. Archived courses can be restored to overwrite another course.
<u>Unix Server</u>	The software is available for Solaris 2.8 and Red Hat Linux 6.2. Suggested hardware recommendations are two Ultrasparc II, 450 Mhz, 2 GB RAM.	The software is available for Red Hat Linux 7.3, Red Hat Enterprise Linux AS 2.1, and ES 2.1 for Intel processors, and Solaris 8 and 9. Suggested minimum hardware recommendations are one 1GHz Pentium III or two SPARC, 750 MHz Ultra Sparc III, 2GB RAM, 72GB disk space in a hardware RAID-1 or RAID-5 configuration.
<u>Windows Server</u>	The software is available for Windows NT, 4.0, Windows 2000 Server, or Advanced Server. Suggested hardware recommendations are 2 Pentium III, 800 MHz CPUs, 2 GB RAM.	The software is available for Microsoft Windows 2000 Server SP3 or Windows 2000 Advanced Server SP3. Suggested (minimum) hardware recommendations are: one 1 GHz Pentium III processor or two Ultra SPARC IIIs, 750 MHz, 2GB RAM, 72GB disk space in a hardware RAID-1 or RAID-5 configuration.

> Pricing/Licensing

	BlackBoard	WebCT
<u>Company Profile</u>	Founded in 1997, Blackboard is privately-held by a number of venture investors, media and technology companies. Over the years it has acquired CourseInfo, Web-Course-in-a-Box, and Prometheus course management systems.	WebCT began as a project by a University of British Columbia professor Murray Goldberg as part of a grant project to study the effects of online teaching on learning. Murray founded WebCT in 1997 at UBC, and delivered it as a commercial product at that time. In 1999 the company was acquired by Universal Learning Technology (ULT) and combined company was renamed WebCT, and headquarters moved to Lynnfield, Massachusetts. WebCT is a privately held company backed by a group of investors, which include CMGI@Ventures, JPMorgan Partners, SCT, and Thomson Corporation. WebCT currently sells and supports two product lines, WebCT Campus Edition, and WebCT Vista.
<u>Costs</u>		The Campus Edition Institution License is priced based on number of full-time equivalent (FTE) students in an institution. The Campus Edition Focus License is priced based on a limited number of student seats (normally 3000). The software is licensed on an annual subscription basis. Technical support is provided by email, web form, or phone. The annual license fee includes support for two administrators per license. Additional technical support may be negotiated for instructors or additional administrators, with four-hour response time and 7x24 support options.
<u>Open Source</u>		

	BlackBoard	WebCT
<u>Optional Extras</u>	The Building Blocks initiative is an attempt to create a community of developers who can provide API-integrateable applications to enhance the functionality of the system. Current applications include WYSIWYG web page editors, DAV file transfer mechanisms and a toolkit for science courses (e.g. MathML editor). Akiva recently announced the release of a new Blackboard add-on module for WebBoard 6 Editions. This module allows WebBoard owners to seamlessly integrate their message boards into Blackboard.	WebCT Campus Edition 4.0 supports right-to-left languages such as Arabic and Hebrew. For these languages, any left-to-right language words or phrases, which are embedded in the text, display correctly (i.e. left-to-right). WebCT Campus Edition is licensed in two variants: Focus License and Institution License. The Focus License allows a subset of the functionality included in the Institution License, and restricts the number of student seats, and eliminates access to APIs that allow integration with campus systems such as student information systems, portals, and authentication systems. The company offers consulting services for implementation planning and advanced technical services including an initial technical assessment and evaluation of issues such as authentication, load balancing, and migration and upgrade planning. Premium support services are available for quicker response time, direct access, and 24/7 support. The company also offers customized training.
<u>Software Version</u>	The current software version number is 6.0.	The current software version number is 4.0.