

Choosing the Right Technological Tools for Teaching (An Overview)

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Focus on Your Goals

Before you begin to learn or use any technological tool, you must have a clear idea of what you hope to gain by using it. Either the technology should make your life easier in some way and give you more time to focus on other aspects of your teaching, or it should improve some aspect of your teaching to such a degree that any extra work will be worth it.

In either case, if you know what you want to get out of a technological tool before you start using it, it will be easier to focus on the essential features and not get distracted by unnecessary bells and whistles. As soon as you discover that a tool isn't useful to you, drop it.

Initial questions to consider:

1. What are some concepts in your class that students consistently struggle to understand?
2. What are the logistical aspects of teaching that you feel take up too much time or attention?
3. What are the technologies you have found easiest to use or most useful?
4. What are the technologies you have struggled with the most?
5. What technologies do you think will make the most difference to your teaching ?

Student Expectations

Students can be very calculating when allotting time to their academic work. Depending on the nature of the class, there are sure to be a number of students who are constantly figuring out how much work they need to do to get the grade they want (whether it be an A or a D). When you introduce a new technology, the degree that the students embrace it is directly related to the value that you place on it, both in terms of grading and your attention.

Consider student motivations.

Who are your students? What do they want to get out of this class? Compare these motivations with your own goals. What are the main points they need to understand? By positioning technologies relative to the students' motivations (good grades, future jobs) you can draw them into using the tools and use the tools to meet your goals. Small classes filled with enthusiastic majors will require one approach, giant gen-ed lectures with a high percentage of reluctant students will require another.

Give a grade for using it.

Whatever the technology, from using simple links to online discussions, the way to ensure that a tool is used by your students is to grade them on its use. Students have told us that they do not spend time on "supplemental" or optional items. Students use some technologies because they see them as helping with graded elements such as preparing for exams, working on assignments, or writing papers. Other tools need to have a more obvious relationship to a grade (such as a participation score for online discussions or PRS answers).

Show that you value it.

If you show support for the use of a tool, your students will get the message (the reverse is also true). If you expect students to spend significant time outside of class using a tool, be sure to acknowledge its use in class or in personal comments to the students. In addition to grades, this will let the students know that you are paying attention to what they do with the tool.

Be specific about what you want them to do with it

In your syllabus or assignment sheets, be exact about what you want your students to do with the tool. If you want students to participate in online discussions, lay out in writing how many posts you want to see per week and what form they should take (original thoughts, responding to others, multiple lines, etc.). Students need specific guidelines or they will let things slide. Tools such as SPARK can include grading rubrics and assignment goals that help communicate your expectations and standards.

Managing the Technology

Useful Skills to Cultivate

Typing

If you can type fast, you will be more comfortable with the text-based aspects of teaching technologies (email, discussions, etc.). Free typing tutor programs can help speed you up.

File Management

Knowing where you have saved a file makes a big difference (especially when creating Web sites). If you often lose track of files, take the time to learn the file system on your computer.

Have a backup plan

Always prepare an alternative in case the technology fails. Print your slides. Have a handout. Plan for paper-based activities.

Keep regular backups of files

Magnetic storage is delicate. Disks, drives, servers, and other devices can fail or be destroyed. Always keep more than one copy of a file. The more important the file, the more copies you need and the greater the distance you should have between them.

Purchasing and Learning the Right Tools

Try the software before you invest time and money. OIT Computer Classrooms and the Learning Commons, have large collections of software. If you would like a demonstration, consultants in the Instructional Media Lab would be happy to show you how something works.

Software Discounts through OIT

OIT has many software packages that are available as site licenses or at steep discounts. Before buying anything at full price, check the OIT Software page: [URL](#)

Faculty Workshops from Academic Computing

OIT Academic Computing offers regular workshops on many software packages. Most are offered in January and June, but departments can also request special sessions if enough people are interested in a specific topic.

Basic Troubleshooting

Test, Early and Often

Do what you plan to do with the tool as many times as you can before you do it in class. It is especially important to test on the actual equipment you or your students will be using.

If it doesn't work, try again

Sometimes the failure will not repeat itself. Step back (restart if necessary) and try again. If a problem is "reproducible" every time, it is easier to solve.

Check the simple stuff first

Even geeks forget to plug things in. Check all the easy solutions before you try complex fixes or get discouraged. Run through the basic set up instructions again.

Don't assume it is your fault

Do not dwell on what *you* may have done wrong, look for why the computer is being stupid.

Links to Online Resources

Students currently arriving on campus have already spent years using Google or Wikipedia as their primary research tools. With all the questionable resources on the Internet, one of the most important resources faculty can give their students is a list of reputable online resources and some guidance on how to judge the resources that they find through their own searches.

Library Subject Specialists

The library is the best place to send students for reputable sources. Subject Specialists maintain general purpose Web pages for their subjects and can create more specific guides on request. To locate your subject specialist, see: <http://www.library.umass.edu/reference/contactal.html>

A list of existing subject guides can be found at:

<http://www.library.umass.edu/subject/>

Information for students about using online library resources:

<http://www.library.umass.edu/instruction/students.html>

Online Books and Journals

The library subscribes to millions of dollars worth of online journals and other online resources. When you find an article you want your students to read, it will likely be available through one of these services. To make a link to the article, find its online citation and copy the “persistent link” into your handout or Web site.

If your students will be coming from off-campus networks, they can still access the link if you paste the following code in front of the URL:

<http://silk.library.umass.edu:2048/login?url=>

For more details about this process, contact your Subject Specialist, or see the Library’s own documentation at: <http://www.library.umass.edu/instruction/faculty/linkguide.html>

Searching and Evaluating Web Sources

If you want your students to use Web-based resources, but learn how to search better and find more reputable information, you may need to help them get past the simple Google search.

Advanced Google Searches

The simple search on Google is great for finding the most popular links on a topic, but this is not always the best source for information (especially if the topic is related to pop culture icons). Recommend that your students use the *Advanced Search* and refer to the *Search Features* page at: <http://www.google.com/intl/en/help/features.html> for interesting tricks such as limiting searches to specific sites (**site:**) or specific kinds of files (**filetype:**).

For more on Advanced Google searching, see the handout at:

http://www.oit.umass.edu/workshops/tutorials/google_techniques.html

Evaluating Sites

The library is a good source for educating your students about evaluating the sites that they use in their research. A good basic tutorial is available through the Library at:

http://www.library.umass.edu/merlin/html_docs/mod6/mod6page1.html

Handouts

Tips for making handouts in Microsoft Word

Insert information on every page in the Header and Footer.

Go to **View > Header and Footer** to open a separate view of the document that allows you to add items that will appear on every page. The header and footer toolbar has tools that insert page numbers, dates, times and other special footer content. We recommend adding institutional and personal information to every page in case a particularly useful page gets distributed separately from the rest of the document.

Use styles to more efficiently control text formatting in a document.

Go to **Format > Style** to create standard formatting rules for headers, subheads, body text and other elements of the page. When applying styles, you select the text and select the appropriate style from the “Styles and Formatting” tool bar at the top or the “Formatting Palette” on the right (depending on version and operating system).

If you change the look of a style later, these changes will be applied retroactively to all the text in the file. Styles take a bit of work to set up, but they make formatting much easier.

Add more than just text to your document.

Go to the **Insert** menu for inserting all kinds of elements in your document. The first part of the menu includes short cuts for inserting page break, date, time, and even customized phrases (tired of typing out the name of your organization?). The middle part contains footnotes, captions and other standard elements of a document. The last section is for adding visual elements, from pictures (see page on digital images for details on preparing pictures), to movies, to “objects”. Objects are links to elements created by other Microsoft Office programs which can then be automatically updated from those programs. For instance, a graph object from Excel can be displayed in a Word file, but when the data in Excel is updated, the graph will update automatically when the Word file is opened.

Tips for making handouts in Microsoft PowerPoint

Use “Handouts” option when printing to print several slides per page

By default, PowerPoint prints one slide filling each page. However, if you change the “Print What” settings on the Print dialog box you can print multiple slides on each page (2, 3, 4, 6, and 9 slides per page). Note that printing three slides per page gives you lines in a second column for taking notes.

Use “Notes” option when printing to print each slide plus notes per page.

In addition to printing “Handouts”, you can set PowerPoint to print the “Notes” view of your presentation. This will split the page in half—with the slide at the top and the notes on the bottom. By editing the “Notes View” of your presentation, you can even craft exactly how this page will appear, including adding graphics and diagrams.

Printing the notes view can provide easy lecture notes, or an annotated version of the talk that you can hand out or post in PDF form on a course site.

Distributing Handouts without Paper

It is possible to distribute original Microsoft Word (.doc) or PowerPoint (.ppt) files to students or colleagues. Distributing files like this can be useful if you want to use the notes or tracking changes features of Word. A disadvantage of this is that your students or colleagues will need to have the right software to open the file, and if you have used any special fonts they will need these as well.

If you want to send files to students or colleagues without worrying if they have the right software, here are two popular options:

Save as PDF to preserve formatting and fonts

Adobe Acrobat's Portable Document Format (PDF) is a file type that can be read on any computer that has the Adobe Acrobat Reader installed (most browsers come with this installed or it can be downloaded from <http://www.adobe.com/products/acrobat/readstep2.htm>). The benefit of saving your files as PDF is that it preserves the formatting of the page, graphics, fonts, special symbols or equations.

To create a PDF, you have to purchase the full version of Adobe Acrobat (the Reader is not enough). If you do not have access to this version of Adobe Acrobat on your computer, it is available on all of the computers in the OIT Computer Classrooms, the Learning Commons, and in the Instructional Media Lab.

Once Acrobat is installed, when you select "Print" in MS Word (or other software) you will be able to select "Adobe PDF" from the list of printers. By printing to a PDF file you capture what would have gone to the printer in a file that can be emailed, saved on a disk, or posted on a Web site.

For more details on creating PDFs, see the PDF workshop handouts to be posted soon at: <http://www.oit.umass.edu/workshops/tutorials/>

Save as HTML to post for easy viewing on a Web site

Microsoft Word (and most other word processing software) has an option for saving any document as an HTML file. The resulting .html file can be posted on the Web as a page. The benefit of this is that the file will open immediately in the browser window (as opposed to .doc or .pdf files which need to be downloaded and opened in separate software.) This is most useful for simple files that need to be quickly accessed by students – such as syllabi, schedules, or assignments.

A disadvantage of converting a word processing file to HTML is that many basic formatting elements do not translate to HTML: the most significant being tabs and multiple spaces. When you save a file as HTML, it is best to check it in a browser to make sure that the file looks the way you want it to look. It may be necessary to reformat the file before posting it.

For more details on saving Word files in HTML, see the Converting Word to HTML handout at: <http://www.oit.umass.edu/workshops/tutorials/webdev/general/word-to-html.html>

Creating Presentations

PowerPoint is likely the most common use of technology in the classroom. It is very simple to use (and mis-use).

Useful Tips for using PowerPoint

Use different views for different tasks.

PowerPoint has several ways to view and work with your presentation:

Normal – for editing individual slides

Slide sorter – for seeing and organizing the entire slide show.

Slide Show – displays the slide show on your computer screen.

Notes view – displays each slide on a page with room to write notes.

Use a Master Slide to control the design of your show,

To access the master slide, go to **View > Master > Slide**. Make changes in this view and all of your slides will have the same color scheme, fonts, etc. If you later decide to change the master, this change will appear on all the slides. If you want a single slide to look different from the master, simply make changes directly on that slide.

Controlling a Presentation

When you are showing a presentation in Slide Show mode (**Slide Show > View Show**) you can:

- a. Use the arrow keys on the keyboard to change slides: → to go forward, ← to go back.
- b. Press the **Alt** key and press **Tab** (Option-Tab on Mac) to switch between the presentation and other programs or files you have open on your computer.
- c. Move the mouse to the lower left of the screen to access an on-screen menu that allows you to jump to specific slides, blank out the screen, or access a “pen” to mark up slides.
- d. Press the “**Esc**” key to end the presentation.

Printing Presentation Handouts

You can print your presentation in a variety of formats. Simply select the style you want when you print: “**Slides**” prints one slide per page, “**Handouts**” prints multiple slides per page (2, 3, 6, or 9), “**Notes**” prints the slide at the top of the page and the notes at the bottom.

Tips for Good Presentations

Simply writing what you will say in a bullet list and reading it off to your students is not the best use of PowerPoint. Ideally, the students will see each slide as the introduction to a new point you are about to make. The slide will raise questions in their minds which you will help them answer (either directly or indirectly). Good alternatives to bullet points are: questions, quotes, graphs, data sets, tables, images, incomplete diagrams (or formulas), video segments, audio tracks, etc.

For more about Powerpoint, see the workshop handout at:

http://www.oit.umass.edu/workshops/tutorials/ppt_basics.html

Digital Images

There are many ways to capture an image into digital form: digital cameras (even in phones), scanners, and even Internet searches. Try to get the best quality image you can get, then save copies of this image to match what you need for your medium: printed document, slide presentation or Web site.

If you copy an image, be sure to get permission from the copyright holder or verify that your limited use falls under fair use guidelines (*see the page on Copyright for more details*).

Finding Images Online

Google's Image Search makes it almost too easy to find pictures on the Web. Each picture that comes up in the search contains size and format information (helpful when looking for the best quality version of an image).

Flickr also provides access to images posted by individuals. For some subjects, this can provide an interesting collection of image; some of which will be available to use under less-restricted copyrights.

For more on Google image searching, see the handout at:

http://www.oit.umass.edu/workshops/tutorials/google_techniques.html

Get a high-quality image to use as your source.

Digital images are made up of tiny boxes (*pixels*) of color. The number of pixels across (typically given in pixels-per-inch) helps you determine the quality of the image. Your "original" source image should be as high quality as you can get (about 300 ppi). Keep this file untouched and make copies at lower resolutions that are resized for a specific purposes.

Size images properly for your purpose.

Original digital images are likely to be too large for most uses. Adobe's *Photoshop* or *Photoshop Elements* can resize images. Free image editors also come with most operating systems *iPhoto* on the MacOS or *Microsoft Office Picture Manager* on Windows.

- **Images in Word** An uncompressed JPG file sized to the width of the page (or less) and no more than 150 ppi will look fine on most desktop printers. More than 150 ppi won't look much different unless the file is printed on a higher quality printing press.
- **Images in PowerPoint** A PowerPoint slide is 7.5 x 10 inches. An uncompressed JPG that is this size will fill the screen when projected (make it smaller if you want to add a caption). If you care about image quality, make the image match the resolution of your projector, most projectors project images that are 1024 x 768 pixels.
- **Images on the Web** Generally speaking, an image file that is 500 pixels wide will take up most of a "page" on the Web. 150 pixels wide (or less) is a good size for an image that will share space with text. Buttons should be fewer than 100 pixels wide. Use JPG for photos and GIF for flat images with only a few colors (like a line drawing).

For more details about using digital images see the Digital Images workshop handout at:

http://www.oit.umass.edu/workshops/tutorials/images_publishing/image_basics.html

Digital Audio

Recording Audio

For best results, find a quiet space (listen for traffic or fans). A small space with soft materials on the walls will make cleaner audio. Depending on your standards, you can record usable sound with any sound recording device, and then load it on to a computer. We've had success recording audio-only with digital video cameras (which have high-quality microphones built-in) and exporting the audio track from video-editing software such as iMovie.

Audio Recording Tips:

- Avoid distracting noises such as banging your hands on the table, shuffling papers, or touching the recording device. Also try to make sure you will not be interrupted while recording.
- Make your podcast casual but structured. Don't lecture or read your content and keep your podcast flowing.
- Monitor the length of your podcast. The best probable length is between 30 and 60 minutes, neither too short nor too long. You can always edit content in or out to reach the desired time.
- To get a better sense of the format and the style of the average podcast, surf the Web or look in iTunes for podcasts you can use to get yourself familiarized with the medium.

Editing and Saving Audio Files

There are many programs available for editing audio files. Use one that can save MP3 files (the standard file format for audio podcasts). On MacOS, *GarageBand* comes free with the operating system. On MacOS, Linux or Windows systems, *Audacity* is available for free from <http://audacity.sourceforge.net/>.

When you save your MP3 file, the settings you use depend on the file size and sound quality you want. If the audio content is primarily spoken words (or your listeners don't have fast Internet connections) a lower "bit rate" such as 56k Mono will work fine. If you have some music or want higher sound quality consider 64k or more with Stereo. High-quality music should be saved as 128k Stereo.

You might want to create a high-quality version of the recording as well as a low quality version so your audience can decide the quality that they want and can download based on the their Internet connection. It is also a good idea at this point to create a backup of the original recording as well as any versions you create in an external media such as DVD or an external hard drive. To be completely safe, keep this backup in an entirely different location from your originals (keep work media at home and vice-versa).

Digital Video

Most cameras and computers sold these days have the basic capabilities necessary to capture and edit video. The trickier part is capturing video off of older media (such as VHS or 8mm film) and navigating the copy-protection and copyright rules of commercial footage.

Shooting Good Footage

If you are preparing to shoot your own video, here are a few tips that will help you make sure that you get the best quality footage for later editing.

- Always stand the camera with its back to the sun, window, or other light source.
- If you need audio from a single person in a crowded environment, attach a wireless microphone to them or use a “shotgun” microphone.
- If you can control the “stage”, carefully consider the foreground and background. Dress on-screen participants in clothes that will contrast with the background (light on dark, dark on light). Keep unnecessary clutter out of view (i.e., pose people in front of a flat wall).
- If compression matters (for email or Web), keep backgrounds flat and movements to a minimum (the less things move, the more the clip can be compressed.)

Capturing and Editing Video

If you are starting with video from a digital camera, all you need is a computer with a firewire connection and video editing software. For simple capture and edits use *iMovie* (comes with MacOS) or *Movie Maker* (comes with Windows XP). If you have long or complicated video projects, you should consider using *Final Cut Pro* on MacOS, or *Premiere* on Windows.

To capture video off of an older “analog” source such as a VHS tape, you need to convert the footage to digital tape before you can capture it. If you have a digital camera that can connect to a standard VCR, you can do this yourself (make the digital copy off of the best quality tape you can find, each copy made from a VHS tape loses quality.) Once you have a copy on digital tape it can be captured on a computer and edited.

If you don't have access to this software or equipment, iMovie, Final Cut Pro and a variety of video and audio equipment is available for teaching-related work in the Instructional Media Lab. Contact the media lab at instruct@oit.umass.edu or 545-2823 to make an appointment. If you don't already know how to use the equipment, we can show you how.

Workshop handouts for Digital Video are currently being developed. Eventually they will be posted at: <http://www.oit.umass.edu/workshops/tutorials/>

Copyright Issues

Unless you are working with footage that is yours or in the public domain, you will need permission before you can capture, edit or display other people's footage. If you want fair use to apply, be sure that only your students to see the footage, use as little of the footage as you need to make your point, and then only when the footage is the subject of commentary or analysis. Capturing and using video for its original purpose (such as instructional videos) is typically not fair use and requires permission.

Intellectual Property and Copyright (a summary)

If you did not make it, you need permission to use it

Copyright law states that creators (or copyright holders) have the right to control the distribution, duplication, and modification of their work. A work does not have to specify “Copyright *somebody* 2005” to be copyrighted. In fact, unless there is a statement explicitly granting you (or the public) rights to use an image or other creative work, you can’t use it without the permission of the copyright holder.

Getting permission

Getting permission is often as easy as sending an email or making a phone call. Many copyright holders are happy to grant permission to students or faculty who want to use their work in limited ways. When asking for permission, be clear about what you plan to do with the work and make sure the written permission you receive clearly states how you are allowed to use the work. Copyright law assumes that any use of a work not specifically granted is not allowed (i.e. if you have permission only to use an image on a poster, you can’t also use it on a Web site.). In many cases, copyright holders make it easy to ask for permission; for instance, slideshow rights for *New Yorker* cartoons can be purchased online for \$19.95 at www.cartoonbank.com.

Public Domain

Works that are available for anyone to use or modify are in the “public domain.” This frequently includes older works, pieces created by the government, or any work a creator has specifically placed in the public domain. Note that reproductions or performances of public domain works are often copyrighted by the publisher or performer. In this case, you will need to get permission from them to use their version, or you will need to make your own copy directly from the original work.

Fair Use

Copyright law contains a (short) passage allowing the use of copyrighted works without permission for “*purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research*” but that each use must consider the following factors:

- (1) the purpose and character of the use*
- (2) the nature of the copyrighted work;*
- (3) the amount and substantiality of the portion used*
- (4) the effect of the use upon the potential market for or value of the copyrighted work.*

In essence, fair use allows for you to use a copy of a work as long as you are commenting on it (in the case of reviews, journalism, or satire) or using a copy to further knowledge about the work (in the case of teaching or research). When the work itself is not the subject of what you are creating, or when your use will negatively affect the copyright holder’s ability to maintain their rights, the use is not fair. “Fair Use” is a defense you use after the copyright holder sues, so if there is any question it is best to consult a lawyer or get permission.

For more details and resources on copyright see:

<http://www.oit.umass.edu/workshops/tutorials/copyright.pdf>

Classroom Technologies

If you are interested in using technologies in the classroom, there are a variety of spaces and equipment that make it easy to include technologies while you are teaching.

AV-Enhanced Classrooms

The provost's office is in the process of installing projection, video, and audio equipment in many of the general-purpose 30-90 seat classrooms across campus. These classrooms each have a ceiling-mounted projector, a screen, and a locked equipment box that includes a VCR, DVD player, microphones, and a switching system that allows you to project from one or two computers.

Documentation and information about using the classrooms can be found at:

<http://www.umass.edu/provost/classroom/>

Video Conferencing Classrooms

There are several options for making a video conferencing connection on campus. For general-purpose academic use, contact OIT Computer Classrooms to reserve time in the OIT Video Conferencing room. (*note for Fall 2007: this service is being redesigned, be sure to contact us as early as possible about availability and schedules*).

For more information about the OIT Video Conferencing classroom see:

http://www.oit.umass.edu/academic/video_conf/

Personal Response System (PRS)

Classroom response systems such as PRS enable the instructor have every student in the class give an answer to a question. At its simplest, this can be used to provide the instructor with quick feedback on how many students understand the material, or show the audience how their answers to a survey-style question matches up with the rest of the class. More complex uses include collecting numeric data from students and facilitating quizzes or exams.

On campus, most of the large lecture halls and AV-enhanced classrooms have PRS-brand RF receivers. If you plan to use PRS, you will have to require the purchase of a "clicker" by each student in the class (sold in the Textbook Annex). In departments where clicker use is common, students may already own clickers. To receive results from the clickers, the you need to load the PRS software on your computer and connect it to the receiver in the classroom. Data from the clickers can be managed in the PRS software or exported to Excel, OWL and SPARK.

For more information about PRS on campus see:

<http://www.umass.edu/prs/>

Tablets and Schoolpads

Many faculty on campus have begun to use Tablet PCs, Schoolpads and other devices in the classroom to enhance their lectures. The UMass Amherst *Tablet PC Community of Practice* meets regularly during the school year to discuss and share experiences with this new technology. Contact Mei-Yau Shih in the Center for Teaching to find out more: mshih@acad.umass.edu.

OIT Computer Classrooms

The OIT Computer Classrooms provide teaching spaces for faculty who need their students to have access to computers during class meetings. Some classes meet in the OIT Classrooms for just one or two sessions (to introduce students to a particular piece of software or give an exam), some for the entire semester. We have both PC and Mac classrooms, and offer access to an extensive collection of software. When not being used for teaching, students, faculty and staff have access to the Computer Classroom facilities.

The OIT Computer Classrooms also manages several specialized facilities on campus, including the Five College Video Conferencing Classroom, the Digital Video Editing Classroom and the Assistive Technologies Center. The new Learning Commons on the Main floor of the W.E.B. Du Bois Library has 100 PC and Mac computers available 24/5 with the same software as in our other classrooms.

What do I need to use the OIT Computer Classrooms?

Both faculty and students need their NetID and UMail password to log into OIT Classroom computers (until Spring 2008, some may still require a UAccess password). In order to use our pay-for-print system you will need to have a debit account associated with your UCard or a guest UCard. Guest UCards are available in a variety of locations on campus.

Work cannot be stored on OIT Classroom computers, so be sure to bring a blank CD-RW or a USB drive to save your work. Some classrooms will allow you to use a floppy disk or a zip disk as well.

Where are the OIT Computer Classrooms located?

Windows

Fine Arts Center 444, Goodell 613, LGRC A110a
W.E.B. Du Bois Library (Calipari Room, 720, 1667)
Bartlett 101 & 105 (Writing Program -- this classroom is generally unavailable for public use.)

MacOS

LGRC A110, LGRC A127 (Digital Video Editing Classroom – access is limited)
W.E.B. Du Bois Library 767

Learning Commons

W.E.B. Du Bois Library main floor has both PCs and Macs.

Assistive Technologies Center

W.E.B. Du Bois Library main floor, has special equipment and software for use by students with disabilities who need special accommodation to use computers.

Kiosk Locations (Web-browsing only)

Web kiosks are available in LGRC, Whitmore, Thompson, and Goodell (6th floor).

See next page for information on reserving and using computer classrooms.

Reserving an OIT Computer Classroom

Faculty or instructors may reserve a computer classroom if your students need access to computers during class time. We will always do our best to accommodate your class even with late notice, but our facilities are limited, so we urge you to get your requests in early! We prefer two weeks notice for single session reservations. We ask that the faculty member or TA be present throughout the class session.

Most of our classrooms can accommodate 20 students; one classroom (Du Bois 1667) has an additional 10 computers in a side room to accommodate larger groups. Data projectors are available. If you need access to one, let us know when you make your reservation.

For more information or to make a reservation

If you need more information about teaching in the OIT Computer Classrooms or wish to make a reservation, contact Kate Hudson, Manager, OIT Computer Classrooms, khudson@oit.umass.edu, 545-1706.

Software

OIT maintains an extensive collection of software in the OIT Computer Classrooms. If you would like to see additional specialized software that you are using for a course installed on our OIT Computer Classroom machines, we will do our best to accommodate you. If there is a licensing fee associated with the software, the department requesting the software is usually responsible for paying the licensing fee.

We encourage you to contact us early for a preliminary consultation, even if your plans are not completely finalized. Contact Kate Hudson, Manager, OIT Computer Classrooms, khudson@oit.umass.edu, 545-1706.

Public Course Sites

There are a variety of ways to post course information online. The tool you choose depends on the features you most need to meet your goals. First you must choose if you want a site that is available without restrictions (a public site) or a site that is limited to the students who are registered for your class (in this case, consider SPARK).

Request an additional account for your course

Each OIT account for students, staff and faculty comes with a variety of services that can be used for personal (but not commercial) purposes. Faculty can request an additional account for each course they teach, so that these services can be used specifically in each course.

OIT Account Services include:

- **UMail** email account with a separate address for the course.
- **UDrive** online file storage space for posting and sharing files.
- **UMass Blog** software for creating and maintaining a simple announcement-oriented site.
- **Web hosting** space (100 MB) for creating more complex, custom Web sites.

To request an additional account for a course, fill out the form at:

http://www.oit.umass.edu/academic/course_sites/

UDrive: for simple file sharing

The UDrive service gives you (and your students) online file storage. By default, this space is private, but files and directories can be shared with individuals, groups, or the public. If all you need is a no-frills space to post handouts and assignment files, UDrive is a good option.

UMass Blogs: for simple course sites

Blogging software makes it easy to maintain a simple site. You choose from a set of customizable designs and post announcements using an online form. You can also post static pages (such as a syllabus), links, files and images. Additional tools let you allow students to comment on posts or contribute their own. A blog gives you everything you need for a simple course site, plus extra features, without much effort.

Web Hosting: for customized course sites

Web hosting gives you an empty space and lets you build a site from scratch. The URL will be <http://courses.umass.edu/course####>. You can write HTML code yourself or use software such as *SeaMonkey* (free) or *Dreamweaver* (commercial) to build, post, and maintain your site. This process requires attention to detail and technical proficiency, and is not for everyone.

For a starting template and instructions on how to build a site from scratch see:

<http://www.oit.umass.edu/workshops/tutorials>).

Note about Copyright and Public Sites

“Fair Use” rules that allow use of copyrighted materials in a classroom or on a password-protected site do not allow posting of material on public sites. Because public sites are open to anyone, you must get permission before posting anything that you did not personally create or that is not explicitly in the public domain.

SPARK Course sites

SPARK courses are based on the Blackboard Vista Learning Management System formerly known as WebCT. A Learning Management System (LMS) provides an easy way to post course content on a site, and provides a collection of tools that allow for a variety of learning activities to be performed in an online environment. Such activities include written “discussions”, online quizzes, drop boxes for assignments, and live chats.

When you request a SPARK course, you get a basic framework of a site and can add content or tools as needed. The interface is simple, and Web-based. This course can be used as a companion to existing course sites such as a blog.

Request a new SPARK course account.

Instructors can request a course account in SPARK for any course that they teach using the form at: http://people.umass.edu/accprod/webct/vista4_request_course.html.

Once the site is created, you will use your OIT NetID and UMail password to log in to SPARK at <http://www.oit.umass.edu/webct/>. When you log on to SPARK, you will see links to your courses listed on the “My Blackboard” entry page. Click a link to access the course.

Only registered students can access the site.

SPARK rosters are automatically updated with data from the registrar each morning. When students log in to SPARK, they use their own OIT NetID and UMail password. If a course for which they are registered is using SPARK, the link will appear on the initial page.

Build by modifying a template with browser-based tools

A newly created SPARK site comes with a basic framework for a course site. You can add and remove tools using a simple “select item, click action” Web interface. Course content can be added by uploading files to the site. Links to these files can be added to the home page as icons or as links within many of the available tools.

SPARK sites are flexible and expandable.

SPARK sites can contain just a few documents and a syllabus. SPARK sites can also contain interactive elements that allow students to perform tasks such as take quizzes, submit assignments, and debate topics outside of class. What you do depends on your goals and how much time you have. Some tools are easy (making links, posting files). Some tools take work up front, but then pay off during the semester (quizzes, learning modules). Other tools are easy to activate, but require work during the semester (discussions, chat, drop boxes).

Student Rosters and Grading in SPARK

Student rosters in SPARK are updated daily with data from the Registrar. This includes first name, last name, SPIRE ID (UMass ID), OIT NetID (User ID), UMass email address and much more. All of this data can be easily downloaded for use in your own data-management software. Data can be uploaded to SPARK as long as it includes the OIT NetID as a key.

The Grade Book tool can also be used to keep track of student information and grades. You can create custom columns, have grades from online quizzes entered automatically, and calculate

grades with data from several columns. Grades can be released to students securely (a student will only see his or her own grades). On request, you can have final grades transferred from SPARK to SPIRE for approval at the end of the semester.

Controlling Access to Specific Content or Tools

SPARK lets you control access to tools and course content in minute detail:

- who can access (by group or individual)
- when they can access
- by specific criteria (such as grades or other data)

This lets you prepare content ahead of time, but only release it when it is needed. It also allows you to limit (or encourage) self-paced students who want to work ahead.

Features and Functions of a SPARK site

Basic Site Structure and Navigation Included

SPARK sites come with a basic framework of a site. As you add content and modify the framework, you do not need to keep track of modifications to the navigation. Essential navigation (headers, course menus, breadcrumbs, etc.) is all updated by the software when needed; you just add the content.

Posting Course Content

Links to outside URLs and files uploaded into SPARK can be added easily. Single files can be HTML, PDF, TXT or any file format that your students can read through a browser. (PDF is the best format for PowerPoint shows.)

Organizing Course Content

Large collections of links or files can be grouped in folders or within “Learning Modules”. Learning Module pages have an added benefit that they can be interlinked with other tools and student access to the pages is tracked in extreme detail.

Surveys and Quizzes

Quizzes, exams, self-tests and surveys can easily be created in SPARK. As you build these “assessments”, you build a pool of questions (multiple choice, true/false, matching, short answer, long answer, etc.). Quiz settings allow you select random sets of questions, set proctor passwords, limit access to a specific lab on campus, and control the timing of access down to the minute. Results can be released to the students with comments. Grades of automatically graded portions can be loaded into the grading module automatically.

Simultaneous Communication

SPARK contains a built in “chat” tool in which students can type messages or draw pictures in real time. These live “conversations” can be recorded for future reference.

Bulletin Board Discussions

SPARK contains a bulletin board-style system in which students and faculty and post written comments and responses based on an initial topic posting. Users log in when they can and respond to the messages that have been posted before. This tool includes a “blog” variation for commenting on specific posts and a “journal” variation which provides each student with a “private” thread that only the instructor can read.

Email and Email Lists

The messages in SPARK's "Mail" tool are only visible within SPARK (messages can be individually forwarded outside, but this can cause confusion). Some faculty and students prefer this to keep course-related message traffic out of their personal emails. Others prefer that the messages come to them where they usually check for mail. It depends on your preference.

Calendar and Announcements

A basic calendar is included in SPARK that you can use to post significant events and links to posted files. New entries appear in a popup when students first enter the site. Major University dates are automatically posted for each semester. Students can post their own events, privately or (if allowed) publicly.

Syllabus

The syllabus tool in SPARK can be used to create a syllabus from a template, or can be set to use an uploaded file (HTML or PDF as needed).

Assignments

The SPARK assignment tool creates a place where students can view details about an assignment, download starter files, and upload their final work. This tool displays and tracks due dates, and can be set to block or mark late submissions. Any type of file can be uploaded (within reasonable limits of size and upload speeds). Instructors can then use the tool to post grades and comments back to the students.

OIT Services for Students

All students at UMass Amherst are required to have an OIT account. This account comes with a variety of services that many students do not even know they have.

Access to the Internet

On-Campus, students can access the Internet via Ethernet from most campus buildings and all of OIT's classrooms and labs. Wireless access is available in an ever-growing number of buildings and outdoor locations on campus. All scheduled classrooms have wireless access.

Off-Campus, most student's now have personal high-speed Internet access. Students without high-speed access can connect to the Internet via OIT's 56k modem service.

Email

OIT's primary email system is called UMail. All students are required to check their official email accounts (@student.umass.edu) for official communications from the University. If you want to create a mailing list for your classes, such a service is now available through SPIRE.

UMail can be accessed using most IMAP-compatible email programs (such as Outlook, Netscape, or Thunderbird) or through the Web at umail.oit.umass.edu. Students have 30 MB of storage for email, faculty and staff have 100MB.

UDrive

Every OIT account comes with 250 MB of storage space that can be accessed via the Web or a WebDAV connection. Files and folders in this directory are private by default, but can be made public or shared with specific individuals or groups. <http://www.oit.umass.edu/udrive/>.

Blogs

By logging on to blogs.umass.edu, students can create their own personal blogs. These blogs can be used to post entries about their coursework, opinions, or personal lives. Blog entries can include embedded images, video, or audio. Comments on posts can be allowed and managed by the blog owner. Each blog creates an RSS feed that others can use to track new posts.

Space for a personal Web site

Each OIT account is allocated 100 MB of file space which may be used to store files for a Web site. Students can use this space to post personal pages or pages related to their academic work.

Access to public computer labs, classrooms, and email kiosks

OIT maintains computer classrooms on campus which are accessible to faculty, students, and staff with an OIT Account. Several classrooms are in LGRC lowrise and the W.E.B. Du Bois Library; others are in buildings across campus.

Access to SPARK courses

When students are enrolled in a class that uses SPARK, they use their NetID (OIT Account user name) and UMail password to get access to SPARK. For detailed information about SPARK, see the SPARK Web site at <http://www.oit.umass.edu/webct/campus-vista/>.

Remote access to library databases

If a student is coming from an off-campus network to view online materials offered through the library, they will be asked to enter their OIT NetID and UMAccess Password before being passed through to the materials.

For more details about OIT accounts see: <http://www.oit.umass.edu/accounts/>