

Cyberlaw in the Computer Science Curriculum

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Computers and the Internet have made it easier to invade privacy, publish offensive messages, misuse the intellectual property of others, eliminate established methods for conducting business, and commit crimes. Awareness of the interaction between rapidly-changing computer technology and emerging law prepares students to make more informed decisions as they work in cyber-related fields. It encourages them to act responsibly in helping to shape the laws that govern this new frontier. A writing-intensive cyberlaw course, intended for inter-disciplinary students with at least junior standing, continues to be one of the most popular courses in the computer science curriculum at East Tennessee State University. This paper shares the instructors' approach and suggestions for teaching that class.

Keywords: law, intellectual property, curriculum, crime, internet

1.0 Current Affairs

Serious discussion of recent cyber-law news captivates student interest and inspires further study. Students from all over campus hear about the energetic interaction among computer-science students, who are at the cutting edge of technology, and frequently want to join in. Perspectives from business, criminal justice, political science, education, and elsewhere add depth to the conversation. Students come to class prepared, bringing at least one current news article for each topic, together with a page or two setting forth the article's relevance to their own chosen professions. General topics include:

- Privacy
- Freedom of Expression
- Cyber Crime
- Copyrights
- Patents
- Trade Secrets
- Trademarks and Domain Names
- Jurisdiction in Cyber Space
- E-Commerce
- Telecommunications
- Antitrust

For the first class on privacy, the instructors bring in a downloaded and printed stack of timely and intriguing news from the New York Times, LexisNexis Academic, Westlaw, Wired News, and several other cyber sources. As students enter the classroom, they receive two articles and read them immediately. They use these readings to add something new to a privacy discussion. The dialogue is often well underway before the instructors can call the class to order, pass out the syllabus, and take students to the law library. Because the ETSU class is taught in the evenings, in four-hour

blocks, students have a couple of breaks that they use to absorb the privacy articles before the instructors put PowerPoint slides up on the screen for the lecture. For subsequent classes, students bring in their own articles. Because article write-ups and participation count for 50% of the grade, diligent students do well in the class, even if the exams prove difficult for them. Students receive points for careful choice of news, good writing skills, critical thinking, logical comments, and ability to listen actively.

2.0 Precedent

While a computer-science professor could teach an interesting and relevant course with just the news articles, he runs the risk of having the discussion turn into a bash of the legal system that ignores the requirement for solid precedent in enacting and interpreting the law. Many excellent undergraduate and graduate textbooks offer the structure necessary to better understand the legal precedent behind the cyber-law news. However, the ETSU instructors require an actual law-school case book, Maggs, Soma, and Sprowl's *Internet and Computer Law: Cases, Comments, and Questions, 2d*, St. Paul: West Group(2005). Obviously, the instructors do not prepare students to practice law. But, Maggs, Soma, and Sprowl choose and present primary law (cases, statutes, and regulations) so well that their detailed table of contents provides perfect search terms that take interdisciplinary students directly into breaking news that is relevant to them. Computer-science students understand and can break down the complex technology that pushed the related legal issues into public light in the first place. When they share this perspective with the class, they bring about synergy that takes everybody from the news into the textbook.

The instructors help students get into this precedent by summarizing the cases on PowerPoint slides for class (Figure 1).

<ul style="list-style-type: none">■ Copyright. Limitations on Exclusive Rights. Fair Use. Kelly v. Arriba, 336 F.3d 811 (9th Cir. 2003).■ Facts: A photographer sued an Internet search-engine provider for copyright infringement. The provider had converted the photographer's images into "thumbnails" for use in searches. These thumbnails could be enlarged. The district court held for the provider, finding the images to be fair use under 17 U.S.C. §107. The photographer appealed.■ Issue: Were the provider's thumbnails protected by the fair use doctrine?■ Holding: Yes. The provider made exact replications of the photographer's image, but the thumbnails were smaller and had low resolution. The photographer's images had aesthetic purpose; the thumbnails did not. The thumbnails were just a tool for indexing and accessing images on the web. The provider's use was transformative. His thumbnails did not stifle creativity.

Figure 1: Slide of Summary for Copyright Case

The instructors use PowerPoint's fade-in or fly-in features, so that initially only the facts appear on the screen. A student reads the facts to the class and then paraphrases in his own words. Students sometimes use the Internet in class so as to define legal terminology. Once class members understand what happened, each tries to guess the legal issue and holding. When everyone has formed an individual opinion, the remainder of the summary

goes up on screen to be read and discussed. Because student opinions often vary dramatically, the differences frequently motivate students to study the judge's entire opinion.

The case summaries form a basis for crafting mid-term and final exam questions (Figure 2).

(5 pts) Most search engines provide text listings without images, because of the time it takes to download all the bytes for images. You and some of your friends design a search engine called "We-Find-Everything.com" that uses an especially fast algorithm for constructing tiny low-resolution copies of images and displays them on the listings provided by the search engine. A photography studio in Hollywood discovers by accident that some of their copyrighted photographs are displayed in your search engine listings and threatens to sue you. What precedent might you think about and why?

Figure 2: Mid-term Exam Question

These summary-based exam questions, while less complex than typical law-school questions, do require careful analysis and a look at precedent. When the question is taken out of the context and framework of the course outline, the student must decide where the subject matter belongs. This can be surprisingly difficult, as students often discover on the first exam. Is this a jurisdiction issue or a copyright issue? Is this about limitations on exclusive use or about direct, contributory, or vicarious infringement? Students may take the textbook into the exam, but no copies of the slides or other secondary information. By the time students take the final exam, they better appreciate the need for careful precedent in resolving cyber-law conflicts or enacting laws that prevent conflict.

In addition to summary-based questions, the ETSU instructors include true/false, matching, and fill-in-the-blanks taken from the case summaries, related slides, and law library exercises. The exams count for 30% of the grade.

Maggs, Soma, and Sprowl provide excellent case summaries in their teacher's guide, together with outstanding commentary. Because court cases may be overturned before the book can be supplemented, instructors must stay alert to changes and rewrite summaries accordingly. Instructors may also want to pick up other useful cases that are not included in the textbook.

3.0 Law Library and Formal Research

A field trip to a traditional law library is an excellent way to begin a cyberlaw class, even though electronic research is now available through LexisNexis, Westlaw, and other Internet sources. The trip provides an overview of how laws are reported, codified, and organized for research. A hands-on approach using hardbound books helps students understand which of the three branches of government enact or interpret certain kinds of laws (see appendices A and B).

Students are divided into 3 groups with an instructor or other leader in each. Graduate students in the class can be trained ahead of time to lead groups, if needed. One group goes on a "scavenger hunt" in the traditional

library stacks (see Appendix C). The other two groups sit at computers in the library or in a classroom near the library, and work through a LexisNexis exercise (see appendix D), and a Westlaw exercise (see appendix E). Following this learning sequence, students easily decipher and use legal citations.

Because this is a writing-intensive class, a formal research paper is required in addition to news write-ups. The library exercises provide a solid focus for understanding a general overview of the law and for using valid sources. The research paper is 20% of the undergraduate grade. The research paper, together with its formal presentation to the class, is 20% of the graduate grade.

4.0 Validity of Cases, Statutes, and Regulations

Students must check the validity of every law they rely upon in their research. If class members have access to LexisNexis' Shepards or Westlaw's KeyCite they can cite-check cases, statutes, and regulations to see whether they are still good law and why. Most university libraries now provide students with free access to both LexisNexis Academic and Westlaw Campus Research. LexisNexis Academic does not include full Shepards services unless the University pays extra for it. However, Westlaw Campus Research does include full KeyCite functions with colored warning symbols and with detailed explanations as to they mean.

5.0 Conclusion

Rapidly changing cyber-technology and the resultant increases in litigation and legislation require a basic understanding of cyberlaw by those working in computer-related professions. A computer science professor can effectively teach fundamental concepts of cyberlaw by exposing students to relevant cyber news, related legal precedent, and tools for practical research and analysis. The methods described in this paper have been successful in accomplishing this at East Tennessee State University.

6.0 Appendices

6.1 Appendix A. Government branches that Enact and Interpret Law

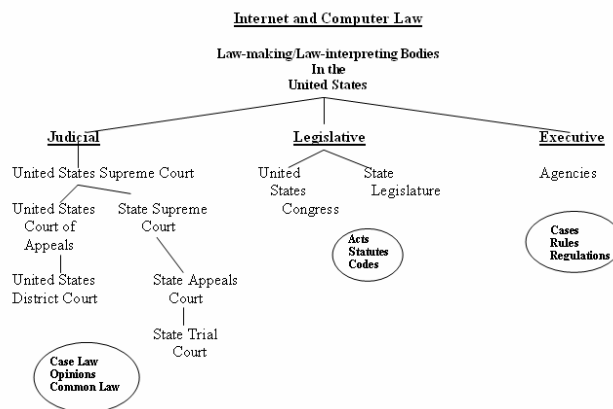


Figure 3: Law-making/Law-Interpreting Bodies of U.S. Government

6.2 Appendix B. Abbreviations for Reporters, Codes, and Administrative Volumes

Judicial	Titles	Abbreviations
U.S. Supreme Court	United States Reports	U.S.
	Supreme Court Reporter	S.Ct
	United States Supreme Court Reports, Lawyers' Edition	L.Ed.,L.Ed.2d
U.S. Courts of Appeal	Federal Reporter, 3d Series	F.3d
	Federal Reporter, 2d Series	F.2d
	Federal Reporter	F.
U.S. District Courts	Federal Supplement	F.Supp
	Federal Supplement, 2d Series	F.Supp.2d
	Federal Rules Decisions	F.R.D.
State Appellate Courts Tennessee Appellate Courts Virginia Appellate Courts		
	South Western Reporter	SW, SW.2d, SW.3d
	South Eastern Reporter	SE, SE.2d, SE.3d
Legislative	Titles	Abbreviations
U.S. Congress	U.S. Statutes at Large (chronological session laws)	Stat.
		U.S.C., U.S.C.A., U.S.C.S.
	U.S.Code (topical)	
Tennessee Legislature	Public Acts of the State of Tennessee (chronological session laws)	Tenn. Pub. Acts
	Tennessee Code Annotated (topical)	TENN. CODE.ANN.
Virginia General Assembly	Acts of the General Assembly of the Commonwealth of Virginia (chronological session laws)	Va. Acts
	Code of Virginia Annotated (topical)	VA.CODE.ANN.
Executive	Titles	Abbreviations
Federal Agencies	Federal Register (chronological)	Fed. Reg.
	Codes of Federal Regulations (topical)	C.F.R.
Tennessee Agencies	Official Compilation Rules & Regulations of the State of Tennessee	TENN.COMP.R.®S.
	Tennessee Administrative Register	Tenn. Admin.Reg.
Virginia Agencies	Administrative Register of Regulations	Va. Regs. Reg.

Figure 4: Abbreviations for Reporters, Codes, and Administrative Volumes

6.3 Appendix C. Traditional Legal Research Exercise

- 1) **Courtesy:** Remember to communicate in whispers or low voices in the law library, as there may be people doing research under time pressure. Do not reshelve books—place them on the cart.
- 2) **Quick Tour of the Library:**
 - a) Traditional researchers begin with secondary sources to get themselves oriented. Examples: American Jurisprudence (AmJur), Corpus Juris Secundum (CJS), American Law Reports (ALR), and legal periodicals.

- b) Researchers want to find primary authority as soon as they can:
 - i) Court Cases
 - (1) United States Supreme Court (see U.S., S.Ct. L.Ed)
 - (2) Federal Circuit Court of Appeals (see F.3d)
 - (3) Federal District Court (see F.Supp. 2d)
 - (4) State Supreme Court (see Regional Reporters)
 - (5) State Court of Appeals (see Regional Reporters)
 - ii) Statutes
 - (1) Session Laws (in order of enactment)
 - (2) U.S. Congress (see U.S.C., U.S.C.A., U.S.C.S.)
 - (3) State Legislature (see state code volumes—topically organized)
 - (4) Administrative Rules and Regulations (see CFR or Federal Register)
- 3) Group Exercise:
 - a) Each group member will find and bring to the designated table a:
 - i) United States Supreme Court case
 - ii) Case from the Federal Circuit Court of Appeals
 - iii) Case from the Federal District Court
 - iv) State case from a regional reporter
 - v) Statute from the United States Code Annotated
 - vi) State statute
 - vii) Federal Regulation
 - viii) Session Law
 - b) Make sure that other group members have found the right volumes for each source of authority
 - c) How do we know that this law has not been overturned?
 - i) Cases: Shepards Citations or Westlaw’s KeyCite.
 - ii) Statutes: Shepards Citations and KeyCite. Also see pocket parts and other supplements to hardcopy law books. So long as the statute volume is kept current, the pocket part will not be over a year old. Never forget to look in the pocket part. Look in the history line and in the amendment notes. See if there is a new case annotation in the supplement.
- 4) Finding a specific case and a specific statute:
 - a) Using the table of cases in your textbook, find a Supreme Court case, a circuit court of appeals case, a district court case, and a state case . Then locate each in the stacks and bring the reporters to the instructor, indicating how the listed case name corresponds with the case in the reporter volume. This kind of exercise will appear on the midterm exam.
 - b) Using the list of statute citations, find one federal statute and one state statute in the codes . Show both to the instructor, making sure that the case name corresponds with the statute in the code volume. Do not forget the pocket part or supplement entry for the statute, if any. Point out a history line and amendment note. This kind of exercise will appear on the midterm exam.

*Partial List of Statute Citations:

Anticybersquatting Consumer Protection Act, 15 U.S.C. §1125
 Audio Home Recording Act, 17 U.S.C. §§1001 *et. seq.*
 Computer Fraud and Abuse Act, 18 U.S.C. §§1030 *et.seq.*
 Children’s Online Privacy Protection Act, 15 U.S.C. §§6501 *et.seq.*
 Computer Fraud and Abuse Act, 18 U.S.C. §1030
 Copyright Act of 1976, 17 U.S.C. §§101 *et.seq*
 Digital Millennium Copyright Act, 17 U.S.C. §§1201 *et. seq.*
 Economic Espionage Act, 18 U.S.C. §§1839 *et.seq.*
 Electronic Communications Privacy Act, 18 U.S.C. §2510 *et. seq.*
 Electronic Signatures in Global and National Commerce Act, 15 U.S.C. §§7001 *et.seq.*
 Freedom of Information Act, 5 U.S.C. §§551 *et. seq.*
 Virginia Anti-Trust Act, VA.CODE.ANN. §§59.1-9.5 *et.seq.*
 Virginia Freedom of Information Act, VA.CODE.ANN. §§2.2-3701 *et.seq.*

*Contact the author(s) for a complete list of statute citations

6.4 Appendix D. LexisNexis Academic Research Exercise

- 1) Log into LexisNexis Academic
- 2) Secondary Sources (needed for getting oriented and for your notebook entries). Use “Basic Legal Research” to:
 - a) Find a relevant law review article on the First Amendment
 - b) Find a relevant newspaper article on the First Amendment.
- 3) Primary Sources (needed for formal legal research). Use “Basic Legal Research” to locate the following:
 - a) Federal Case Law
 - i) Supreme Court: *Ashcroft v. American Civil Liberties Union*, 535 U.S. 564, 122 S.Ct. 1700 (2002)
 - ii) Court of Appeals: *Playboy Enterprises, Inc. v. Welles*, 279 F.3d 796 (9th Cir. 2001)
 - iii) District Court: *Arizona Retail Sys., Inc. v. Software Link, Inc.*, 831 F. Supp. 759 (D. Ariz. 1993)
 - b) State Case Law
 - i) Any Internet-law case from the state of Tennessee that could be relevant to you or your future career.
 - ii) Any Internet-law case from the state of Virginia that could be relevant to you or your future career.
 - c) Use Codes and Agency Regulations to locate the following:
 - i) Federal Code: Copyright Act of 1976, 17U.S.C. §§101 et. Seq. Find the history line and amendment note.
 - ii) State Code: Tennessee Personal and Commercial Computer Act of 2003, TENN CODE ANN §§39-14-601 et. seq. Find the history line and amendment note.
 - iii) Federal Regulations: Find anything about e-commerce and narrow it to something meaningful to you and your future career.
- 4) How do we know that the primary law has not been overturned?
 - a) Shepard’s Citation Service (or Westlaw’s Campus Research).
 - b) Note that NexisNexis Academic provides no Shepard’s for anything but Supreme Court Cases, unless the user pays extra. Westlaw’s Campus Research does have KeyCite for all cases and statutes.
 - c) Remember to check history lines and amendment notes when reading statutes—they tell you a lot about whether the provision is still good law.
- 5) If you have time left over, search your notebook assignment for next class.

6.5 Appendix E. Westlaw’s Campus Research Exercise

- 1) Log into Westlaw’s Campus Research
- 2) Secondary Sources (needed for getting oriented and for your notebook articles):
 - a) Click on the News & Information Tab.
 - i) Find a relevant and recent TN newspaper article on an Internet copyright issue.
 - b) Click on the Law Tab
 - i) Find a relevant and recent TN law review article on an Internet copyright issue.
 - ii) Explore American Jurisprudence (AmJur) and find a relevant and recent article on an Internet copyright issue.
 - c) Explore American Law Reports (ALR) and find a relevant and recent article on an Internet copyright issue.
- 3) Primary Sources (needed for formal legal research)
 - a) Use Quick Search to find the following cases. Use KeyCite to see whether each case is still good law.
 - i) Supreme Court: *Ashcroft v. American Civil Liberties Union*, 535 U.S. 564, 122 S.Ct. 1700 (2002)
 - ii) Court of Appeals: *Playboy Enterprises, Inc. v. Welles*, 279 F.3d 796 (9th Cir. 2001)
 - iii) *Arizona Retail Sys., Inc. v. Software Link, Inc.*, 831 F. Supp. 759 (D. Ariz. 1993)
 - b) Use Quick Search, Find, and KeySearch to find:
 - i) Any recent case from TN that could be relevant to you or your future career.
 - ii) Any recent case from VA that could be relevant to you or your future career.
 - c) Find these statutes and agency regulations.
 - i) Federal Code: Copyright Act of 1976, 17 U.S.C. §§101 et. seq.
 - ii) State Code: Tennessee Personal and Commercial Computer Act of 2003, TENN CODE ANN. §§39-14-601 et. seq.
 - iii) Federal Register: Find anything about e-commerce and narrow it to something meaningful to you and your future career.