

# Ethics in Forensic Science



**PennState**  
Eberly College  
of Science

Forensic Science Program  
329 Whitmore Laboratory  
University Park, PA 16802

## COURSE INFO

### INSTRUCTOR

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### LECTURE

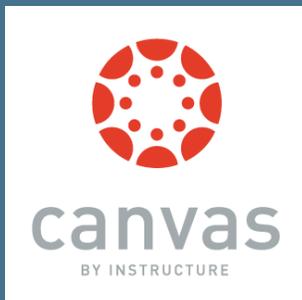
**302 BOUCKE**

WED 1800-1850 HR

### CANVAS CMS

**[psu.instructure.com](https://psu.instructure.com)**

CANVAS will be used extensively for communication and posting course material. Students are strongly advised to check CANVAS frequently for updates.



## SYLLABUS—Fall 2019

*It is the responsibility of each student to carefully review this document. Its content is subject to revision with notice.*

### Required Textbooks

Bowen RT. Ethics and the practice of forensic science. 2nd ed. Boca Raton: CRC Press; 2018.

Downs JCU, Swienton AR, editors. Ethics in forensic science. Oxford: Academic Press; 2012.

Institute of Medicine, National Academy of Sciences, and National Academy of Engineering. On being a scientist: a guide to responsible conduct in Research. 3rd ed. Washington, D.C.: The National Academies Press; 2009.

Supplemental resources required (see REFERENCES page 3).

### Description & Goals

Classroom discussions will focus on scientific integrity, ethical behavior, ethics standards, and various examples of ethics violations and misconduct in the forensic science community. Ethical issues regarding evidence handling, data analysis, and courtroom testimony will be discussed and the students will be introduced to the important and sensitive issues surrounding professional integrity and ethics. At the end of the course, students should have an understanding of scientific integrity and ethics as they relate to criminalistics and forensic science. The students will also have been introduced to several professional codes of ethics and common ethical dilemmas that may confront criminalists and other forensic scientists.

eth·ics | 'eTHiks |

倫理

plural noun

1 [usu. treated as pl.] moral principles that govern a person's or group's behavior: *Judeo-Christian ethics.*

- the moral correctness of specified conduct: *the ethics of euthanasia.*

2 [usu. treated as sing.] the branch of knowledge that deals with moral principles.

### Assessment

Student-led discussion #1	20%
Student-led discussion #2	40%
Student-led discussion #3	10%
Paper	20%
Class participation	10%

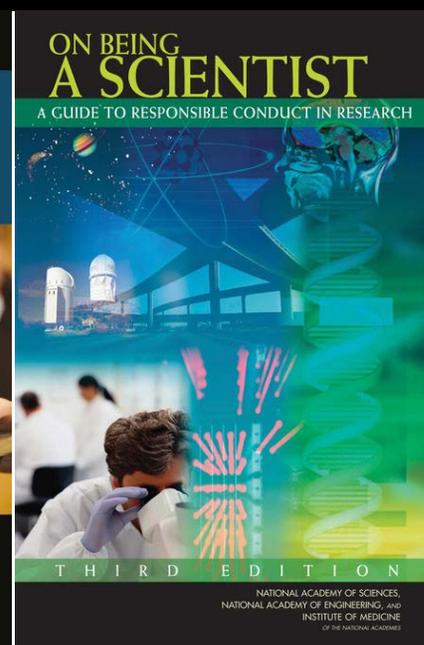
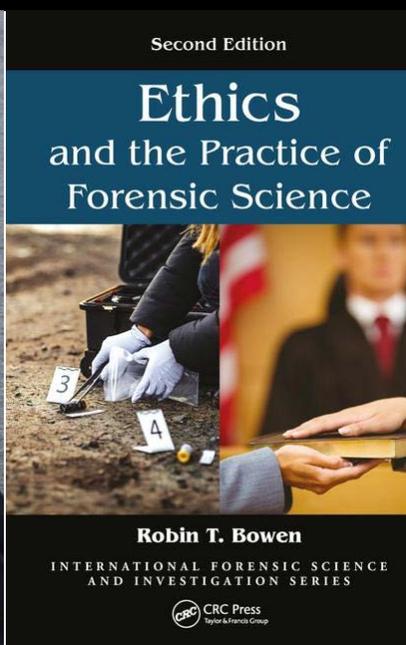
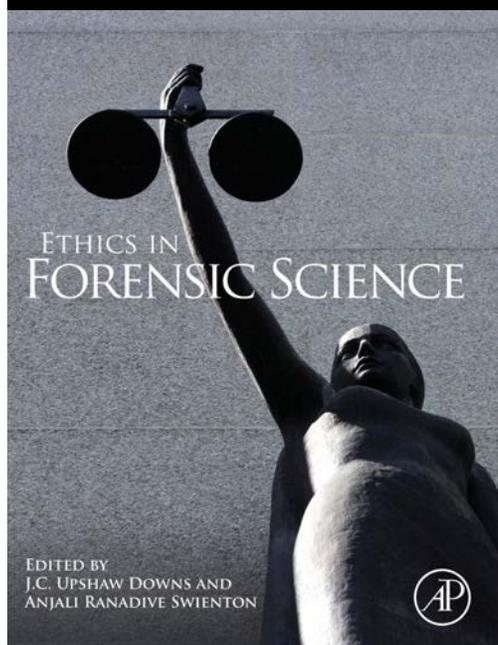
Grade	Score (%)
A	93.00 ≤ x ≤ 100.0
A-	90.00 ≤ x < 93.00
B+	87.00 ≤ x < 90.00
B	83.00 ≤ x < 87.00
B-	80.00 ≤ x < 83.00
C+	77.00 ≤ x < 80.00
C	70.00 ≤ x < 77.00
D	60.00 ≤ x < 70.00
F	x < 60.00

NOTE: Grades are NOT rounded up. For example, a final course score of 59.99% will result in a failing grade.

### Grade Scale

### Additional Grading Concerns

- **Completion of Paper**
  - Late submissions NOT accepted.
  - Extensions will be granted for emergent circumstances (*documentation will be requested*).
  - Extensions may be granted for exigent circumstances (*documentation will be requested*).
- **Attendance Policy:** Students are expected to attend every lecture (refer to University Faculty Senate [Policy 42-27: Class Attendance](#) for further information). Recurrent attendance issues will result in deductions from the **final course score**.
  - Two (2) unexcused absences: 10% deduction
  - Three (3) unexcused absences: 20% deduction
  - Four (4) unexcused absences: 40% deduction
  - *NOTE: Two (2) late arrivals equal one (1) unexcused absence*



## Course Calendar

## Course Topics and Resources

Wk	Date	Discussion Topic	References*
01	Aug. 28	<i>Introduction and Course Overview; Forensic Fraudsters</i>	Starrs; Midkiff
02	Sep. 04	<i>What are Ethics?</i> STUDENT-LED DISCUSSION #1 (students #1-2)	Bowen (ch. 1); Downs et al. (ch. 1, 2-2.3)
03	Sep. 11	<i>Ethics in Forensic Science</i> STUDENT-LED DISCUSSION #1 (students #3-4)	Bowen (ch. 2-4); Downs et al. (ch. 2.4-2.8, 3); Saks
04	Sep. 18	<i>Ethics in the Criminal Justice System and Law Enforcement</i> STUDENT-LED DISCUSSION #1 (students #5-6)	Bowen (ch. 4); Downs et al. (ch. 8)
05	Sep. 25	<i>Criminal Investigation Ethics</i> STUDENT-LED DISCUSSION #1 (students #7-8)	Bowen (ch. 5); Downs et al. (ch. 10)
06	Oct. 02	<i>Ethical Duties of Attorneys</i> STUDENT-LED DISCUSSION #2 (student #1)	Downs et al. (ch. 11-12)
07	Oct. 09	<i>Judicial Ethics</i> STUDENT-LED DISCUSSION #2 (student #2)	Downs et al. (ch. 14)
08	Oct. 16	<i>Ethics in the Courtroom and in Testimony</i> STUDENT-LED DISCUSSION #2 (student #3)	Bowen (ch. 6); Downs et al. (ch. 13)
09	Oct. 23	<i>Ethics in the Crime Laboratory and CSI</i> STUDENT-LED DISCUSSION #2 (student #4)	Bowen (ch. 6); Downs et al. (ch. 10)
10	Oct. 30	<i>Whistleblowers</i> STUDENT-LED DISCUSSION #2 (student #5)	Bowen (ch. 8); Downs et al. (ch. 16)
11	Nov. 06	<i>Teaching Ethics and Implementing Ethical Codes</i> STUDENT-LED DISCUSSION #2 (student #6)	Dombrowski; Downs et al. (ch. 7); Nordby
12	Nov. 13	<i>Ethics Codes in the Sciences and Forensic Science</i> STUDENT-LED DISCUSSION #2 (student #7)	Bowen (ch. 10); Downs et al. (ch. 4)
13	Nov. 20	<i>Use of Animals in Forensic Science Research</i> STUDENT-LED DISCUSSION #2 (student #8)	Cattaneo et al.; Mole et al.
14	Nov. 27	<b>NO CLASS — THANKSGIVING RECESS</b>	<b>N/A</b>
15	Dec. 04	<i>Ethics and Integrity in Research and Experimental Design</i> STUDENT-LED DISCUSSION #3 (students #1-4)	Bal; Bowen (ch. 7); Feyman; IMNASNAE
16	Dec. 11	<i>Presentation and Discussion of Ethical Case Scenarios</i> STUDENT-LED DISCUSSION #3 (students #5-8)	<b>N/A</b>
17	Dec. 16-20	<b>NO CLASS — FINAL EXAMINATIONS WEEK</b>	<b>N/A</b>

\*Refer to REFERENCES on the following page.



## REFERENCES

- **Bal R.** How to kill with a ballpoint: credibility in Dutch forensic science. *Science, Technology, and Human Values* 2005 Winter;30(1): 52-75.
- **Bowen RT.** *Ethics and the practice of forensic science*. 2nd ed. Boca Raton: CRC Press; 2018.
- **Cattaneo C, Maderna E, Rendinelli A, Gibelli D.** Animal experimentation in forensic sciences: how far have we come? *Forensic Science International* 2015 Sep;254:e29-35.
- **Dombrowski PM.** Can ethics be technologized? Lessons from Challenger, philosophy, and rhetoric. *IEEE Transactions on Professional Communication* 1995 September;38(3):146-150.
- **Downs JCU, Swienton AR, editors.** *Ethics in forensic science*. Oxford: Academic Press; 2012.
- **Feynman RP.** Cargo cult science. *Engineering & Science* 1974 June;37(7):10-13.
- **IMNASNAE** (Institute of Medicine, National Academy of Sciences, and National Academy of Engineering). *On being a scientist: a guide to responsible conduct in research*. 3rd ed. Washington, D.C.: The National Academies Press; 2009.
- **Midkiff CR.** More mountebanks. In: Saferstein R, editor. *Forensic science handbook volume II*. 2nd ed. Upper Saddle River: Pearson/Prentice-Hall; 2005. p. 35-80.
- **Mole CG, Heyns M.** Animal models in forensic science research: justified use or ethical exploitation? *Science and Engineering Ethics* 2018. <https://doi.org/10.1007/s11948-018-0053-1>.
- **Nordby JJ.** A member of the Roy Rogers Riders Club is expected to follow the rules faithfully. *Journal of Forensic Sciences* 1997 November;42(6):1195-1197.
- **Saks MJ.** Prevalence and impact of ethical problems in forensic science. *Journal of Forensic Sciences* 1989 May;34(3):772-793.
- **Starrs JE.** Mountebanks among forensic scientists. In: Saferstein R, editor. *Forensic science handbook volume II*. 2nd ed. Upper Saddle River: Pearson/Prentice-Hall; 2005. p. 1-34.

## ADDITIONAL RESOURCES

- Adshead G. Evidence-based medicine and medicine-based evidence: the expert witness in cases of factitious disorder by proxy. *Journal of the American Academy of Psychiatry and the Law* 2005;33(1):99-105.
- Barnett PD. *Ethics in forensic science: professional standards for the practice of criminalistics*. Boca Raton: CRC Press, 2001.
- Bird SJ. Scientific certainty: research versus forensic perspectives. *Journal of Forensic Sciences* 2001;46(4):978-981.
- Bradford LW. Problems of ethics and behavior in the forensic sciences. *Journal of Forensic Sciences* 1976 October;21(4):763-768.
- Budowle B *et al.* A perspective on errors, bias, and interpretation in the forensic sciences and direction for continuing advancement. *Journal of Forensic Sciences* 2009 July;54(4):798-809.
- Castle EN. On scientific objectivity. *American Journal of Agricultural Economics* 1968 Nov;50(4):809-814.
- Frankel MS. Ethics and the forensic sciences: professional autonomy in the criminal justice system. *Journal of Forensic Sciences* 1989 May;34(3): 763-771.
- Giannelli PC. Evidentiary and procedural rules governing expert testimony. *Journal of Forensic Sciences* 1989 May;34(3):730-748.
- Grainger DW. Peer review as professional responsibility: a quality control system only as good as the participants. *Biomaterials* 2007;28:5199-5203.
- Gutheil TG, Hauser M, White MS, Spruiell G, Strasburger LH. "The whole truth" versus "the admissible truth": an ethics dilemma for expert witnesses. *Journal of the American Academy of Psychiatry and the Law* 2003;31(4):422-427.
- Garcia CH. Ethical issues in the forensic sciences. *Journal of the Forensic Science Society* 1991;31(2):163-166.
- Giannelli PC. "Junk science": the criminal cases. *Journal of Criminal Law and Criminology* 1993 Spring;84(1):105-128.
- Hiss J, Freund M, Kahana T. The forensic expert witness – an issue of competency. *Forensic Science International* 2007;168:89-94.
- Kates JH, Guttenplan HL. Ethical considerations in forensic science services. *Journal of Forensic Sciences* 1983 October;28(4):972-976.
- Knight B. Ethics and discipline in forensic science. *Journal of the Forensic Science Society* 1989;29(1):53-59.
- Lucas DM. The ethical responsibilities of the forensic scientist: exploring the limits. *Journal of Forensic Sciences* 1989 May;34(3):719-729.
- Macklin R. Ethics and value bias in the forensic sciences. *Journal of Forensic Sciences* 1997 November;42(6):1203-1206.
- Murphy JP. Expert witnesses at trial: where are the ethics? *Georgetown Journal of Legal Ethics* 2000 Fall;14:217-239.
- Peterson JL, Murdock JE. Forensic science ethics: developing an integrated system of support and enforcement. *Journal of Forensic Sciences* 1989 May;34(3):749-762.
- Pigman W, Carmichael EB. An ethical code for scientists. *Science* 1950 Jun 16;111:643-647.
- Rosner R. Ethical practice in the forensic sciences and justification of ethical codes. *Journal of Forensic Sciences* 1996 November;41(6):913-915.
- Rosner R. Foundations of ethical practice in the forensic sciences. *Journal of Forensic Sciences* 1997 November;42(6):1191-1194.
- Schroeder OC. Ethical and moral dilemmas confronting forensic scientists. *Journal of Forensic Sciences* 1984 October;29(4):966-986.
- Tanay E. Money and the expert witness: an ethical dilemma. *Journal of Forensic Sciences* 1976 October;21(4):769-775.
- Weinstock R. Ethical practice in the forensic sciences – an introduction. *Journal of Forensic Sciences* 1997;42(6):1189-1190.

## SELECT WORLD WIDE WEB (WWW) RESOURCES

Ethics Resource Center  
 Markkula Center for Applied Ethics  
 Public Responsibility in Research and Medicine  
 Penn State Rock Ethics Institute

National Reference Center for Bioethics Literature  
 AAAS Professional Ethics Report  
 Office of Research Integrity: US Dept. HHS  
 National Whistleblowers Center

# BIAS



# 12 ABC 14

## ASSIGNMENTS

### Assignments

#### Student-led discussions

Students will be required to present (alone and in groups) and lead class discussions that revolve around the assigned discussion topic for the week. The order of the student/group presenters will be determined during the first class; either randomly and/or on a volunteer basis.

The student presenter/group must provide the following:

- Review of relevant resources (≈30-35 minutes) or other relevant reference(s)
- Promote class discussion (15-20 minutes)

Each student must identify at least one additional, relevant reference for presentation and discussion. This additional reference or subject may be a journal article, newspaper or periodical article, news story, or any other publication that can be presented for discussion.

#### Paper

Students will be required to select a current (within last five years) ethical topic or issue in criminalistics/forensic science and prepare a typewritten paper (Times or Times New Roman font (12 pt), double spaced, one (1) inch margins, 8-10 pages not including a separate cover/title page) introducing, summarizing, and fully discussing the issue using the 7-step method as presented in FRNSC 410.

### Assessment

<b>Class Participation (10%)</b>	
Active participation in discussions	100%
<b>Student-led discussion #1 (20%)</b>	
Review of course resources	60%
Lead and quality of class discussion	40%
<b>Student-led discussion #2 (40%)</b>	
Review of course resources	60%
Lead and quality of class discussion	40%
<b>Student-led discussion #3 (10%)</b>	
Review of course resources	60%
Lead and quality of class discussion	40%
<b>Paper (20%)</b>	
Relevance of topic	25%
Discussion of topic	65%
Grammar, syntax, citations, etc.	10%



# Course Objectives

## OBJECTIVES

## STRATEGIES AND ASSESSMENT

***Comprehension of importance and necessity of objectivity, integrity, and ethics in science.***

- Readings that examine objectivity, development of ethical codes, and research integrity in the sciences.
- Class discussions.
- Written paper to assess application of knowledge to real-life situations.

***Introduction to ethical codes in various scientific professions and professional organizations.***

- Readings that examine ethical codes from various scientific professions and professional organizations.
- Class discussions.

***Introduction to ethical codes and codes of professional conduct for various forensic science professional organizations; comprehension of importance and necessity of objectivity, integrity, and ethics in forensic science.***

- Readings that examine general ethics in forensic science.
- Readings that examine ethical codes from various forensic science organizations.
- Class discussions.
- Written paper to assess application of knowledge to real-life situations.

***Comprehension of potential ethical problems in forensic science including issues of professional practice, technical competence, and bias.***

- Readings that examine professional issues in forensic science including problems such as bias, professional practice, and technical competence.
- Class discussions.
- Written paper to assess application of knowledge to real-life situations.

***Introduction to ethical responsibilities of forensic scientists and criminalists.***

- Readings that examine professional and ethical responsibilities of forensic scientists and criminalists.
- Class discussions.
- Written paper to assess application of knowledge to real-life situations.

***Introduction to teaching ethics and issues of professional conduct in forensic science to students and working professionals.***

- Readings that examine issues related to teaching ethics in forensic science.
- Class discussions.

***Comprehension of potential ethical issues in oral and written communications including testimony, depositions, and reports.***

- Readings that examine issues related to ethical responsibilities and pitfalls in expert testimony, depositions, and reports.
- Class discussions.

