APPENDIX A: ALS 5324: Research Ethics in Agriculture and Life Sciences

SCHOLARLY ETHICS AND INTEGRITY REQUIREMENT
A proposal submitted by the
Department of Agricultural, Leadership, and Community Education

The **Department of Agricultural, Leadership, and Community Education** offers an M.S. and Ph.D. degree program in Agricultural Education. In accordance with the scholarly ethics and integrity requirement mandated by the Virginia Tech Graduate School, the department proposes ALS 5324 - *Research Ethics in Agriculture and Life Sciences* to fulfill the requirement (see Appendix A). Additionally, students will take GRAD 5004 – *GTA Training Seminar*, AEE 5964 – *Graduate Professional Seminar*, and AEE 5804 - *Scientific Procedures in AEE* or AEE 5104 – *Research Applications in AEE* to further explore discipline-specific teaching, writing and research ethics. Below is an overview of the required and optional topics ALS 5324 will cover.

CGSP Resolution Topic	ALS 5234 Syllabus Topic	Comments
Required	(one topic per class period)	
1 Plagiarism and other violations of the Graduate Honor Code	➢ Graduate Honor Code	
2 Proper use of professional conventions in citation of existing research and scholarship, accurate reporting and ownership of findings, and acknowledgement of contributions to the work	➢ Using and citing the literature/ avoiding plagiarism ➢ Ethics in publication	Guest speaker from VT libraries guides discussion of these issues This includes a discussion of guidelines for determination of authorship (optional topic, see below)
3 Ethical standards in teaching, mentoring, and professional activities	➢ Ethical standards in teaching ➢ Ethical standards in mentoring ➢ Peer review ➢ Professionalism and collaboration	
4 Available avenues for reporting alleged misconduct	➢ Taking action (whistleblowing)	This topic is also incorporated throughout the course where appropriate (Honor Code, professionalism, peer review, etc.)
Optional		
1 Appropriate lab procedures and maintenance of lab notebooks and other research documentation	➢ Maintenance of research documentation (lab notebooks)	
3 Appropriate research protocols involving human and animal subjects; IRB and/or IACUC certification	➢ Compliance/ regulations in conducting research (IRB) ➢ Compliance/ regulations in conducting research (IACUC and IBC)	Students are required to complete the online training for IRB, IACUC, *or* IBC
4 Guidelines for maintenance of confidentiality (and, where relevant, anonymity) in research	➢ Intellectual Property and Licensing ➢ Peer Review	Guest speaker from VTIP

5	Guidelines for determination of authorship	➢ Ethics in publication	
7	Discipline or field specific professional ethics	➢ Why ethics training?	Includes an introduction to the Responsible Conduct of Research (RCR) using examples of common violations
		➢ The process of science/ Initiating a research plan/ Research ethics	Application of RCR in the planning stages of research
		➢ Ethics in data management/ Data integrity	Includes homework in which students are required to discuss this topic with an experienced researcher in their research group/ lab

APPENDIX A: ALS 5324: Research Ethics in Agriculture and Life Sciences Syllabus

Course Description
Principles of and skill development in research ethics to enhance professional preparation in agriculture and the life sciences. Pre: Graduate standing. P/F only. (1H, 1C)

Prerequisite: Graduate standing

Lead Instructor
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Learning Objectives
Having successfully completed this course, you will be able to:

- Use the process of science in developing research plans
- Implement relevant procedures for conducting high-quality, compliant research and data management in your field
- Explain and apply the ethics of research and proper conduct of professional scientists
- Identify the characteristics of effective mentoring relationships
- Outline ethical considerations in the publication and peer review process
- Describe how authorship/intellectual property standards apply to your work

Required Text
Snieder, R. & Larner, K. (2009). *The Art of Being a Scientist: A Guide for Graduate Students and their Mentors.* New York, NY: Cambridge University Press. Pp. x, 286.

Grading
The assignments and class material in this course are intended to help you build skills for success in your graduate career and beyond. Thus, it is up to you to commit to getting what you can out of the opportunities available to you. Grading is on a Pass/Fail basis and minimum score of 80% is considered a passing grade. Grades will be based on the following criteria:

Item	Percentage
Attendance and Participation	50%
Assignments	50%

Attendance and Participation. Active participation in class meetings is an important criterion for success in this course. If all of us are active members of the group, it will be a rewarding learning experience as we will have the opportunity to learn from each other. Expectations for active participation include: contributing meaningfully to class discussions, showing respect for the ideas of others, and completing in-class activities with a positive attitude.

- **Assignments.** There will be an assignment each week that will be due before class begins. Late assignments will be accepted for 75% credit until 9 am the following day. Assignments will not be accepted after the late submission deadline unless prior arrangements have been made. All assignments will be posted on Scholar and will be accepted only as electronic submissions through Scholar unless otherwise indicated.

Accommodations for Students with Disabilities
Reasonable accommodations are available for students who have a disability. Students should contact the Services for Students with Disabilities (SSD), 150 Henderson Hall, 231-3788 (V), 231-1740 (TTY); Susan P. Angle, spangle@vt.edu, www.ssd.vt.edu. "Students with disabilities are responsible for self-identification. To be eligible for services, documentation of the disability from a qualified professional must be presented to SSD upon request. Academic adjustments may include, but are not limited to: priority registration, auxiliary aids, program and course adjustment, exam modifications, oral or sign language interpreters, cassette taping of text/materials, notetakers/readers, or assistive technology."

Honor Code Statement
The Graduate Honor Code will be strictly enforced in this course. All assignments submitted shall be considered graded work, unless otherwise noted. All aspects of your coursework are covered by the Graduate Honor System. Any suspected violations of the Graduate Honor Code will be promptly reported to the Graduate Honor System. According to the Constitution of the Graduate Honor System at Virginia Tech, "The fundamental beliefs of the Graduate Honor Code are: (1) To trust in a person is a positive force in making that person worthy of trust, (2) To study, perform research and teach in an environment that is free from the inconveniences and injustices caused by any form of intellectual dishonesty is the right of every graduate student, and (3) To live by and Honor System, which places a positive emphasis on honesty as a means of protecting this right, is consistent with, and a contribution to, the University's quest for truth." (see http://ghs.graduateschool.vt.edu)

Course Schedule

Date	Topics
Week 1	Introduction to the course: why ethics training? Public funding of universities and research
Week 2	Graduate Honor Code
Week 3	The process of science/ Initiating a research plan/ Research ethics
Week 4	Ethics in data management/ Data integrity
Week 5	Maintenance of research documentation (lab notebooks)
Week 6	Ethical standards in teaching
Week 7	Compliance/ regulations in conducting research (IRB)
Week 8	Compliance/ regulations in conducting research
Week 9	Ethics in publication
Week 10	Using and citing the literature/ avoiding plagiarism
Week 11	Peer review
Week 12	Professionalism and collaboration
Week 13	Ethical standards in mentoring
Week 14	Intellectual Property and Licensing/ Authorship Issues
Week 15	Taking action