

AGEC 561

AGRICULTURAL PRODUCTION ECONOMICS

WESTERN KENTUCKY UNIVERSITY

Course Information

Instructor:	Dr. Stephen A. King
Meeting Location:	Web
CRN:	47377
Section:	700
Credit Hours:	3

Contacting Dr. King

- Feel free to call or text me at my cell number 270-991-9804, 8:00 AM to 10:00 PM any day of the week.
- Office phone: 270-745-5964
- Email: Stephen.King2@wku.edu
- Office location: EST 240

Dr. King's Teaching Schedule

<i>Course</i>	<i>Course Name</i>	<i>Location</i>	<i>Time</i>
AGEC 160	Introduction to Agribusiness	EST 260	MWF 12:40-1:35
AGEC 463/463G	Agricultural Finance	EST 250	TR 11:10-12:30
AGEC 561	Agricultural Production Economics	Web	Web
AGRI 291	Introduction to Data Analysis	EST 265	TR 2:20-3:40
AGRI 598	Graduate Seminar	EST 265	T 5:00-5:55

Dr. King's Expected Office Hours

<i>Day</i>	<i>Expected Office Hour Time Period</i>
Mondays	2:00 PM to 5:00 PM
Tuesdays	12:45 PM to 1:45 PM and 3:45 PM to 4:45 PM
Wednesdays	2:00 PM to 5:00 PM
Thursdays	12:45 PM to 1:45 PM

- If the above do not work for you, text Dr. King at 270-991-9804 to establish an appointment.
- If you prefer office hours over Zoom, contact Dr. King to set up a Zoom meeting.
- Please note that the above are the expected times that Dr. King may be in his office (EST 240), meetings and other events could alter availability.

Course Messages and Announcements

Course messages and announcements will be sent via one or more of the following methods:

- Blackboard Announcements
- WKU E-mail
- Remind texting service: To receive messages via remind, please text @agec5 to 81010.

Course Prerequisites

There are no official university course prerequisites for this course. However, it is expected that students have acquired, or are capable of acquiring, knowledge of basic introductory undergraduate level economics, accounting, finance, statistics, and mathematics.

Course Description

AGEC 561 provides a brief overview of basic production and cost functions, programming and decision-making principles, and their applications to agriculture. Topics and concepts covered are expected to include the factors of production, cost and revenue concepts, constrained optimization (profit maximization, cost minimization), the three basic producer decisions (factor-product, factor-factor, product-product), enterprise budgeting, partial budgeting, applied investment analysis (simple rate of return, pay-back method, NPV, BC, IRR), whole farm planning, and applied linear programming.

Course Text

Students are not required to purchase any course textbook. Each of the following textbooks are at the WKU library for short-term borrowing. Even though course notes and other materials will be made available via the course *Blackboard* site for most topic areas, some students may prefer to have access to a textbook. If you were to buy just one book, *Economics of Farm Management in a Global Setting* by Kent Olson (2011) would likely be the most useful.

Text	WKU Bookstore Used	Abe Books Used	eCampus.com	Chegg Used	WKU Library Call Number
Barry, Peter J. and Paul N. Ellinger. 2012. <i>Financial Management in Agriculture, 7th Edition</i> . Upper Saddle River, NJ: Pearson Prentice Hall. ISBN: 9780135037591	\$135.19	\$96.00	\$105.60	\$163.99	HD1437.B37 2012
Kaiser, Harry M. and Kent D. Messer. 2011. <i>Mathematical Programming for Agricultural, Environmental, and Resource Economics</i> . Hoboken, NJ: John Wiley & Sons, Inc. 494 pp. ISBN: 9780470599365	Not Available	\$110.45	\$155.42	\$131.99	QA402.5.K25 2011
Olson, Kent D. 2011. <i>Economics of Farm Management in a Global Setting</i> . Hoboken, NJ: John Wiley & Sons, Inc. 542 pp. ISBN: 9780470592434	Not Available	\$55.24	\$115.16	\$108.99	S561.O477 2011
Penson, John B. Jr., Oral Capps, Jr., C. Parr Rosson III, and Richard T. Woodward. 2010. <i>Introduction to Agricultural Economics, 5th Edition</i> . Upper Saddle River, NJ: Pearson Prentice Hall. 417 pp. ISBN: 0131592483	Not Available	\$9.47	\$9.44	\$169.49 (7 th edition)	HD1415.l68 2010

Pricing and availability is as of approximately 16:45 on Sunday, January 22, 2023

Course Videos

There are instructional course videos for this course. You will access these videos via the course *Blackboard* site.

Information Technology Requirements

You should have access to relatively new versions of the following information technology:

- Windows based personal computer.
- Antivirus software
- High-speed internet connection
- Internet browser such as Internet Explorer, Mozilla Fire Fox, or Chrome
- Microsoft Word with Equation Editor 3.0
- Microsoft Excel
- Adobe Reader (freely available from <http://www.adobe.com/>)

It is not required that you own the above information technology. Every single one of you has access to these technologies through the various computer labs on the WKU campus. For location and operating hours of these labs see: <http://www.wku.edu/it/labs/>

Hand-held Calculator

It is expected that each student has a quality hand-held calculator. There are numerous calculators that will suffice for this course. Students interested in economics and finance might consider investing in a Hewlett-Packard HP-12c, which is a quality financial calculator that meets the requirements for this course as well as for other AGEC courses. Since this is an online course with no closed resource examination, other resources such as Microsoft Excel and a quality cell phone-based calculator may likely suffice.

Regardless of the calculator chosen, the calculator should possess functions such as the following.

- Mathematical functions, such as:
 - y^x , $\frac{1}{x}$, $\sqrt[x]{y}$, e^x , $n!$, LN
- Statistical functions, such as:
 - Mean
 - Median
 - Mode
 - Variance
 - Standard deviation
 - Coefficient of variation
 - Weighted mean
 - Linear regression
- Financial functions, such as:
 - Present value (PV)
 - Future value (FV)
 - Present value of an ordinary annuity
 - Present value of an annuity due
 - Loan payment
 - Loan balance
 - Periodic and annual interest rate
 - Net present value (NPV)
 - Benefit-cost ratio (B/C)
 - Internal rate of return (IRR)
 - Depreciation calculations

Course Design and Requirements

General Format

The course is constructed around the following modules

1. Introduction to Production
2. Enterprise & Partial Budgeting
3. Investment Analysis
4. Whole Farm Planning & Linear Programming

The *introduction to production* module requires students to study the basic theory of production, factors of production, and the three basic producer decisions (factor-product, factor-factor, and product-product). The *enterprise & partial budgeting* module will provide the opportunity to learn about enterprise budgeting and partial budgeting. Students will learn how to construct enterprise budgets and how to use them in partial budgeting. The

investment analysis module covers applied investment analysis methods such as payback period, simple rate of return, and various applications of net present value. The *final module* will cover whole farm planning and will require students to develop and analyze a farm-level linear programming model.

Each module will have a set of learning objectives and course notes. It is recommended that you first download the learning objectives and use the learning objectives document as a guide toward your studying. You will be expected to study particular chapters in various textbooks, study course notes, and complete exercises, quizzes, and examinations for each module.

Grading

Your final course grade will be determined by:

Grading System				
Component	Quantity	Points	Total Points	Percent
Quizzes	2	50	100	10.0
Homework Assignments	4	75	300	30.0
Mid-Term Exam	1	250	250	25.0
Final Exam	1	350	350	35.0
Total			1,000	100.0

Course grades will be assigned using the following grading scale:

Grading Scale				
Grade	Percentage	Point Range		
A	≥ 90	900	to	1,000
B	80 - 89.99	800	to	899
C	70 - 79.99	700	to	799
D	60 - 69.99	600	to	699
F	< 60	0	to	599

The letter grades A, B, C, D, and F have the following significance:

- A – “excellent” valued at four quality points per semester hour;
- B – “good” valued at three quality points per semester hour;
- C – “average” valued at two quality points per semester hour;
- D – “below average, unsatisfactory” valued at one quality point per semester hour; and
- F – “failure” valued at no semester hours earned and no quality points.

Late Submissions

The instructor reserves the right to either accept or reject late submissions. In general for each partial day that work is late a student should expect at minimum a penalty of one-tenth of the possible points for that assignment. For example, if an assignment is worth 100 points then one should expect at minimum a 10 point per day penalty for each day the assignment is late.

Other Important Notices

Student Accessibility Resource Center

In compliance with university policy, students with documented disabilities who require accommodations (academic adjustments and/or auxiliary aids or services) for this course must contact the Student Accessibility Resource Center on the first floor of the Downing Student Union in room 1074. Please do not request accommodations directly from the professor without a letter of accommodation from the Student Accessibility Resource Center. For further information on the Student Accessibility Resource Center please see <http://www.wku.edu/sarc/> or contact SARC at 270-745-5004 or sarc@wku.edu.

Cheating/Plagiarism

According to the student handbook: Any student who commits any act of academic dishonesty will receive from the instructor a failing grade in that portion of the coursework in which the act is detected or a failing grade in the course without possibility of withdrawal. Any student committing such acts in this class will receive a failing grade for the course. Further information on academic offenses, academic dishonesty, plagiarism, and cheating can be obtained from page 33 of the Western Kentucky University 2017-2018 Undergraduate Catalog.

WKU Title IX Sexual Misconduct/Assault Policy

Western Kentucky University (WKU) is committed to supporting faculty, staff and students by upholding WKU's Title IX Sexual Misconduct/Assault Policy (#0.2070) at

<https://wku.edu/eoo/documents/titleix/wkutitleixpolicyandgrievanceprocedure.pdf> and

Discrimination and Harassment Policy (#0.2040) at

https://wku.edu/policies/hr_policies/2040_discrimination_harassment_policy.pdf

Under these policies, discrimination, harassment and/or sexual misconduct based on sex/gender are prohibited. If you experience an incident of sex/gender-based discrimination, harassment and/or sexual misconduct, you are encouraged to report it to the Title IX Coordinator, Andrea Anderson, 270-745-5398 or Title IX Investigators, Michael Crowe, 270-745-5429 or Joshua Hayes, 270-745-5121. Please note that while you may report an incident of sex/gender based discrimination, harassment and/or sexual misconduct to a faculty member, WKU faculty are "Responsible Employees" of the University and MUST report what you share to WKU's Title IX Coordinator or Title IX Investigator. If you would like to speak with someone who may be able to afford you confidentiality, you may contact WKU's Counseling and Testing Center at 270-745-3159.

The Learning Center (TLC)

Should you require academic assistance with your WKU courses, The Learning Center (located in the Downing Student Union, Room 2141) provides free supplemental education programs for all currently enrolled WKU students. TLC @ DSU offers certified, one-on-one tutoring in many subject areas and academic skill areas by appointment or walk in. Online tutoring is offered to distance learners. TLC is also a quiet study area (with side rooms designated for peer-to-peer tutoring) and offers a computer lab to complete academic coursework. Additionally, TLC has satellite locations. Each satellite location is a quiet study center and is equipped with a small computer lab. For further information call (270) 745-6254 or see <http://www.wku.edu/tlc>

Regular and Substantive Interaction in Online and Distance Learning

The U.S. Department of Education requires that distance education courses must include regular and substantive interaction between students and faculty. For more information about Regular and Substantive Interaction at WKU, please visit the Regular and Substantive Interaction in Online and Distance Learning webpage at <https://www.wku.edu/citl/rsi.php>

In this course, regular and substantive interaction will take place in the following ways:

- Weekly announcements via Blackboard, WKU Email, or Remind
- Office hours via Zoom or in person at EST 240
- Timely and detailed feedback on assignments provided within one week of submission.

Tentative Schedule of Lecture Topics and Assignments

Please note that this is an asynchronous web course; thus, there are no scheduled meetings. The date column correlates to a recommended date for completing study of a topic area or reading assignment and the expected tentative date for a quiz or exam. Please utilize this schedule as a guide toward organizing your time.

Week	Date	Topics/Activities	Reading Assignments	<u>Tentative</u> Quiz/Exam Dates
1	Tue, Jan 17, 2023	Course Introduction	Syllabus & Course Notes	
	Thu, Jan 19, 2023	Course Introduction	Syllabus & Course Notes	
2	Tue, Jan 24, 2023	Introduction to Production	Penson et al (2010, 84-99)	
	Thu, Jan 26, 2023	Introduction to Production	Penson et al (2010, 84-99)	
3	Tue, Jan 31, 2023	Factor-Product Decision	Penson et al (2010, 99-104)	
	Thu, Feb 02, 2023	Factor-Product Decision	Penson et al (2010, 99-104)	
4	Tue, Feb 07, 2023	Factor-Factor Decision	Penson et al (2010, 105-119)	
	Thu, Feb 09, 2023	Factor-Factor Decision	Penson et al (2010, 105-119)	Quiz #1
5	Tue, Feb 14, 2023	Product-Product Decision	Penson et al (2010, 119-128)	
	Thu, Feb 16, 2023	Product-Product Decision	Penson et al (2010, 119-128)	
6	Tue, Feb 21, 2023	Enterprise Budgets	Olson (2011, 243-270)	
	Thu, Feb 23, 2023	Enterprise Budgets	Olson (2011, 243-270)	
7	Tue, Feb 28, 2023	Enterprise Budgets	Olson (2011, 243-270)	Enterprise Budget Assignment
	Thu, Mar 02, 2023	Partial Budgets	Olson (2011, 271-283)	
8	Tue, Mar 07, 2023	Partial Budgets	Olson (2011, 271-283)	
	Thu, Mar 09, 2023	Partial Budgets	Olson (2011, 271-283)	Partial Budget Assignment

Tentative Schedule of Lecture Topics and Assignments (continued)

Week	Date	Topics/Activities	Reading Assignments	<u>Tentative</u> Quiz/Exam Dates
9	Tue, Mar 14, 2023	Spring Break - No Class	None	
	Thu, Mar 16, 2023	Spring Break - No Class	None	
10	Tue, Mar 21, 2023	Mid-Term Exam	All the above	Mid-Term Exam
	Thu, Mar 23, 2023	Investment Analysis	Barry & Ellinger (2012, 156-179)	
11	Tue, Mar 28, 2023	Investment Analysis	Barry & Ellinger (2012, 156-179)	
	Thu, Mar 30, 2023	Investment Analysis	Barry & Ellinger (2012, 156-179)	
12	Tue, Apr 04, 2023	Investment Analysis	Barry & Ellinger (2012, 156-179)	Investment Analysis Assignment
	Thu, Apr 06, 2023	Whole-Farm Planning	Olson (2011, 284-313)	
13	Tue, Apr 11, 2023	Whole-Farm Planning	Olson (2011, 284-313)	
	Thu, Apr 13, 2023	Whole-Farm Planning	Olson (2011, 284-313)	
14	Tue, Apr 18, 2023	Linear Programming	Kaiser & Messer (2011, 2-172)	Quiz #2
	Thu, Apr 20, 2023	Linear Programming	Kaiser & Messer (2011, 2-172)	
15	Tue, Apr 25, 2023	Linear Programming	Kaiser & Messer (2011, 2-172)	
	Thu, Apr 27, 2023	Linear Programming	Kaiser & Messer (2011, 2-172)	Linear Programming Assignment
16	Thu, May 04, 2023	Final Exam	All the above	Final Exam

Please note that the above is a tentative schedule. We will do our best to stick to the schedule; however, unforeseen events do happen that may alter the schedule. It is your responsibility to pay attention and check the *Blackboard* announcements, *Remind* notices, and your WKU e-mail to stay informed about any potential changes to the schedule.

Last Revision: Sunday, January 22, 2023