

Algebraic Connections
Course Expectations/Syllabus
David A. Young
1999-2000

Algebraic Connections Goals:

This course is designed to instill in the students an understanding in, and prowess with, algebraic thinking as preparation for Algebra 2, or for future mathematical studies. The key aspects of this course are related to:

The 7 Systemic Parts of Algebraic Connections:

1: LINEAR MODELS

2: APPLICATIONS

3: DISCRETE MATHEMATICS

4: STATISTICS

5: PROBABILITY

6: QUADRATIC and EXPONENTIAL MODELS

7: OTHER FUNCTIONAL MODELS

Students who successfully complete this course will be well prepared to continue their study of mathematics at FHS. The majority of students in this course should plan to move on to take Algebra 2. This course is a mathematics elective and when counted with the successful completion of Algebra 1, and Geometry (both are Prerequisites for AlgConn) will be the required 3rd mathematics credit required for graduation. **Algebraic Connections does not count as Algebra 2!** Focus will be on the collection of data and the analysis of that data with the use of technology. An underlying concept of this program is the **4 Overarching Processes: Reasoning and Problem Solving; Communication; Connecting** or linking knowledge, skills and other understanding within and across disciplines to “real-life” situations; and ***Internalization*** or acting on the learning to make it meaningful and worthwhile. More information about Mr. Young’s AlgConn course may be discovered at <http://fasst.fayar.net>.

Expectations:

Students in the course will be responsible for knowing and following the Fayetteville Computer and Network Use Policies that can be found at <http://fayar.net/admin/technology/plcy4202.html> as well as the guidelines in the FHS Student Handbook. In addition, students must have a school email account. Please email me all your email addresses and your parents email address as soon as possible. At that time I will start sending you your assignments and the initial AlgConn survey. I would like to have at least two contacts with your parents this year. Please encourage them to attend our Open House and other conferences through the year.

What Technology will be used? :

Hardware: As in all secondary mathematics courses in Fayetteville, we will use a graphing calculator. This needs to be a **TI-83 or TI-83Plus**. If you already own a graphing calculator from your previous mathematics experiences in Fayetteville, and it is not a TI-83, then you may continue to use that one (if it is a TI-82 or a TI-81). If this is the case, you will be limited in your ability to do some of the work in this class, but I will work with you, as is needed. The important parts of the TI-83 that relate to this class are its ability to name list, to link between calculators, and to link with the computer, and, to a lesser degree, the ability to do certain statistical tests. EAST campus has a calculator leasing program for those students who may not be able to purchase the calculator at this time. Students with other calculators, such as the Sharp, HP, and CASIO graphing calculators, may do OK in this class, but I will be limited in the amount of help that I can provide. Other technological items that will be used in this class, include: computer, printer, CBR (Calculator Based Ranger), CBL (Calculator Based Lab) with various probes, Calculator Graph Link, and a Digital Camera. These will be provided, as needed. You should have the following items: 3.5 inch computer disks, a metric ruler, a protractor, pen or pencils, graph paper, and regular paper. A folder will be provided for your Portfolio.

Software: We will use in school, Windows 95/98/NT, Graph Link, Graphical Analysis, Netscape/Internet Explorer, GroupWise, and Microsoft Office 97/2000. Students will have open access to this software when they get their EAST Campus Email account.

Grades:

Your grade will be calculated each semester using the scores from your Portfolio, which is submitted each nine weeks (2/5 + 2/5) and the Semester Final (1/5). As you do things in this class, you will be assigned grades, or given checks for the work. These scores may appear on progress reports, but you need to know that your **total grade** comes from your Portfolio, which may or may not contain these individual pieces of work.

The Portfolio will consist of 7 items falling in the categories listed below:

Overarching Processes: This item will come from the 4 Overarching Processes (*Reasoning and Problem Solving; Communication; Connecting* or linking knowledge, skills and other understanding within and across disciplines to “real-life” situations; and *Internalization* or acting on the learning to make it meaningful and worthwhile.). It should be an item that reflects the student’s involvement in that process. **{10%}**

7 Systemic Parts of AlgConn: This item will come from the 7 Systemic Parts of AlgConn (*Linear Models, Applications, Discrete Mathematics, Statistics, Probability, Quadratic and Exponential Models, Other Functional Models*). This should be an item that reflects the student’s involvement in one of these parts. **{10%}**

Evidence of Your Ability to Test : An examination taken during the nine weeks that includes the original work as well as corrections with reflections on the mistakes that were made (why the questions were missed). Your Cover Instrument reflection should address the issue of showing what you know on an examination. **{30%}**

Image of You Working with Technology: Products, or other items that show your involvement in using technology. The level and context of your involvement should be addressed in your Cover Instrument reflection. {10%}

Growth Example: Some indicator of your growth as a person learning AlgConn. This could be an example of your best learning experience, some written communication relating to a particular investigation, in the context of growth, or other work. An explanation of how this item reflects growth should be included in your Cover Instrument reflection. {10%}

Web Page/Free Choice: At least one time during the school year you will need to create an Algebraic Connections web page, following the guidelines to be provided at a later date. This page should represent your understanding of the concepts in the course and also be a resources for others as they learn in the course. Other times in the year, you may do additional web pages for this Portfolio item, or you may select a piece of work, Quiz, or some Homework from the current nine-weeks that you feel is grade worthy and that does not seem to fit in the other categories may be provided. Your CI should explain why this work is of value. {20%}

Journal: Responses to prompts given by me, and additional reflections or thoughts you have as we progress through the term. You are required to write in your Journal at least once per week and you must address all prompts from me. Journal entries must be dated, and the restatement of prompts is required with your response. This item also requires a Cover Instrument, and the Journal should always contain all the writings from the start of the year. {10%}

Portfolio Cover Instrument (CI):

Each item in the Portfolio will include a Cover Instrument (CI). The CI will contain:

- **Identification:** (Which of the 7 items from the list of required Portfolio Items is this?)
- **Name:** (Your name.)
- **Grade Level:** (10th, 11th or 12th)
- **Class and Period:** (The class you have and the period that you have it.)
- **Date:** (The date that the attached item was completed.)
- **Time:** (Approximate amount of **time** spent on the task attached, including time to prepare the Cover Instrument.)
- **Assistance:** (Outside assistance information, who helped you on the attached item, in what way, and to what degree.)
- **Documentation:** (What is the actual piece of work used and where is it physically located?)
- **Reflection:** (Why did you choose to use the attached work for this part of the Portfolio? What does it show that makes it Portfolio-worthy?)

When items are turned in, it is best if you make a back-up copy and to place the work in the hands of the instructor. Please note the guidelines for late and make-up work.

Grades on the Portfolio: Each item in the Portfolio will receive an individual grade, scored on a Rubric (with grades of 4-3-2-1-0). Items earning a score of 4 will be equated to 100%, 3 will be a 90%, 2 is a 60%, and 1 becomes a 30%. Each item in the Portfolio will be weighted by the percentage shown at the end of each explanation. This means that a Web Page earning a score of 3 contributes 18 points toward your grade (90% of the 20 point item).

Guidelines for late work: The student will lose 7% of the grade made on an assignment for each school day the work is late, unless the work falls under the provisions of the make up policy.

Due Dates:

September 20, 1999: Draft Pre-Portfolio due, with CIs.

October 8, 1999: Portfolio due for 1st 9-weeks.

November 15, 1999: Complete Journal due, with CI.

December 10, 1999: Portfolio due for 2nd 9-weeks.

December: Final Examination for the Fall Semester.

February 7, 2000: Draft Pre-Portfolio due, with CIs.

March 16, 2000: Portfolio due for 3rd 9-weeks.

April 20, 2000: Complete Journal due, with CI.

May 16, 2000: Portfolio due for 4th 9-weeks.

May: Final Examination for the Spring Semester.

Office Hours:

My planning period is 3rd period at which time I will be in the FASST Center or the Mathematics Office. I will be in the Math Study Lab on Tuesdays during Activity Period. In addition I will meet with students by appointment. Feel free to contact me at 444-3050 extension:148 or 134 or Email me at: dyoung@fayar.net.

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<http://fasst.fayar.net>.

Algebraic Connections Course Expectations/Syllabus Acknowledgment Form

Please fill out the form below, sign it and return to Mr. Young as soon as possible.

Student Information

Name: _____ Grade: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____

E-mail: _____

Parent/Guardian Name: _____

Phone: _____ Period: _____

I have read, and understand the Course Expectations/Syllabus outlined above.

Student Signature: _____

Date: _____

Comments: