

**Application for Focused Field of Career Study
Oklahoma State Board of Education**

March 16, 2012

Career Technology Site:

**Tri County Technology Center
6101 SE Nowata Road
Bartlesville, OK 74006**

Partner School Districts:

**Barnsdall
Bartlesville
Caney Valley
Copan
Dewey
Nowata
Oklahoma Union
Pawhuska
South Coffeyville
Wynona**

Partnering Higher Education Institution: University of Oklahoma

Questions:

**Dr. Tammie Strobel
Assistant Superintendent for Instruction
918.331.3238**

**Application for Focused Field of Career Study
Oklahoma State Board of Education**

"Technology centers may offer programs designed in cooperation with institutions of higher education which have an emphasis on a focused field of career study upon approval of the State Board of Education and the independent district board of education. Students in the tenth grade may be allowed to attend these programs for up to one-half (1/2) of a school day and credit for the units or sets of competencies required in paragraphs 2 and 3 of subsection B of this section shall be given if the courses are taught by a teacher certified in the secondary subject area."
70 O.S. § 11-103.6.

Date of Application April 2, 2012

Career Technology Site Tri County Technology Center

Partnering School District(s) Barnsdall, Bartlesville, Caney Valley, Copan, Dewey, Nowata, Oklahoma Union, Pawhuska, South Coffeyville, and Wynona

Partnering Higher Education Institution(s) Oklahoma State University

Attachments Checklist

- X Joint Program Agreement between the Career Technology Center and the participating school district(s).
- X Minutes evidencing local school board approval of focused field of career study by each participating partner school district(s).
- X Documentation of Higher Education Involvement. (This may include but is not limited to meeting agendas and minutes.)
- X Documentation of the mathematics and science courses meeting the *Priority Academic Student Skills (PASS)* standards where applicable. (Alignment of course content with *PASS*.) <http://sde.state.ok.us>
- X Description of Plan of Study and Course Descriptions for the focused field of career study courses.
- X Documentation that the mathematics and/or science teachers are certified in the secondary subject area they teach. (Copy of teacher certification.)



If you are considering a career as a...

- Physician
- Surgeon
- Dentist
- Veterinarian
- Nurse
- Medical Technologist
- Biomedical Engineer
- Pharmacist
- Forensic Scientist
- Medical/Research Scientist
- Radiologist
- And many more

If you like...

- Solving problems and making discoveries
- Designing experiments and collecting data
- Building models and creating projects
- Utilizing teamwork and exhibiting leadership

If you are...

- Creative, innovative, motivated and inquisitive
- Good at mathematics and science
- Interested in challenging courses and college credit opportunities
- Preparing for a four-year college or graduate degree

... Biomedical Science May Be For You!

"CareerTech Biomedical students get to observe health care careers in action with as much hands-on as possible. They cover a wide gamut from therapy, to operating room, to radiology and nursing."

Angelina Sherman, R.N./Education
Comanche County Memorial Hospital

"CareerTech teachers, often themselves experienced biomedical professionals, focus on each individual student's unique learning style to integrate complex science, engineering and mathematical concepts through hands-on learning."

Dr. Joel Guthridge, Principle Investigator
Arthritis and Immunology Program
Oklahoma Medical Research Foundation



"In our small town, this program gives students an accurate idea of what they would do as an engineer or medical researcher—going beyond the teacher, theory and textbook for a realistic college perspective."

Malena Woodward
Sophomore Counselor
Ponca City High School



"I've gone with Dad (a dentist) on missions to Honduras and Nicaragua—seeing what people live without. As a biomedical engineer, I'll design devices for doctors to use. I'm on the right track for college."

Andrew Aday
Oklahoma CareerTech Biomedical
High School Senior



"My partner and I designed a vascular system and made a presentation. My self-confidence and writing skills have really improved. I'm thinking about being a cardiologist."

Kaylee Price
Oklahoma CareerTech Biomedical
High School Junior

Career	Oklahoma Median Salary
Physician's Assistant	\$78,900 (\$37.94/hr.)
Family and General Practitioner	\$145,600+ (\$70.01+/hr.)
Surgeon	\$145,600+ (\$70.01+/hr.)
Dentist	\$108,000 (\$51.90/hr.)
Veterinarian	\$64,600 (\$31.04/hr.)
Nurse	\$49,500 (\$23.80/hr.)
Medical Technologist	\$48,300 (\$21.79/hr.)
Biomedical Engineer	\$56,000 (\$26.90/hr.)
Pharmacist	\$93,600 (\$44.98/hr.)
Forensic Scientist	\$47,700 (\$22.92/hr.)
Medical/Research Scientist	\$64,600 (\$31.08/hr.)
Radiologist	\$42,600 (\$20.46/hr.)

Source: CareerOneStop, <http://www.careerinfonet.org>

STEM—Inspiring the Future!
www.okcareertech.org/stem

Biomedical Sciences

In response to an anticipated shortage of qualified science and health professionals, Oklahoma has joined other states to offer Project Lead the Way Biomedical Sciences curriculum.

Oklahoma's CareerTech system, high schools and colleges/universities are working together to provide biomedical courses for secondary students so they will have the knowledge and skills to pursue biomedical careers at the postsecondary level.

Who should take the courses?

All students interested in pursuing a career in

- Biological sciences
- Scientific research
- Health care or medicine

CareerTech's biomedical education gives students a jumpstart for scholarships and college success. The courses are

- Integrated into the high school curriculum.
- Designed to establish a solid foundation and expand the high school math and science college preparatory programs.

A rigorous curriculum and relevant experiences prepare students for real work. The future is wide open for students interested in high-wage health careers in Oklahoma.

Sheryl McClain, Executive Director
Oklahoma Health Care Workforce Center
VP/Workforce Initiatives, Oklahoma Hospital Association

The hands-on application of Oklahoma CareerTech Biomedical Education goes beyond teaching anatomy and physiology. Students practice critical thinking and teamwork—figuring out the "why?"



The Oklahoma Department of Career and Technology Education does not discriminate on the basis of race, religion, national origin, ancestry, age, disability or veteran status. Inquiries concerning application of this policy may be referred to ODCTE, Compliance Coordinator, 1500 West Seventh Avenue, Stillwater, OK 74074-4364, 1-800-547-5461 or 405-377-2000.

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"This is the hardest thing I've done, but it's so worth it. We've had speakers and anatomy, and now I see why I need chemistry."

Abrianna Karns

Oklahoma CareerTech Biomedical High School Junior



"The Biomedical program empowers students to discover concepts through research and experimentation rather than textbooks and lecture. Students are on fire with enthusiasm for the program."

Denise Rattliff

Claremore High School
PLTW Biomedical Teacher,
National Board Certified Teacher and
2008 Teacher of the Year Finalist

Nationally approved curriculum is taught by nationally certified instructors in technology centers, and courses meet the academic rigor of partnering high schools.

Project Lead the Way Biomedical Sciences Initiative includes four biomedical courses and rigorous math and science requirements. This dynamic program engages and challenges students with hands-on, real-world problems.

Curriculum

Principles of Biomedical Sciences

Human Body Systems

Medical Interventions

Science Research

Science Courses:

Pre-AP Biology

Pre-AP Chemistry

Anatomy and Physiology

AP Biology, AP Chemistry

and/or AP Physics

Mathematics Courses:

Algebra I

Geometry

Algebra II

Trigonometry/Pre-Calculus

AP Calculus or AP Statistics

Oklahoma Department of Career and Technology Education

1500 West Seventh Avenue • Stillwater, OK 74074-4364
405.377.2000 • www.okcareertech.org

lead
theWay

**Application for Focused Field of Career Study
Oklahoma State Board of Education**

Joint Program Agreement

**Tri County Technology Center
6101 SE Nowata Road
Bartlesville, OK 74006**

**MEDICINE and BIOSCIENCES
JOINT PROGRAM AGREEMENT**

This Joint Program Agreement (Agreement) is entered by and between Tri County Technology Center District No. 1 (Tri County) and Independent School District No. 30 of Osage County a/k/a Barnsdall Public Schools (Barnsdall).

1. **Purpose:** Tri County and Barnsdall desire to enter into a joint program, pursuant to 70 O.S. §5-117(C), in order to provide a Medicine and Biosciences Program to Barnsdall students.
2. **Term:** This Agreement shall become effective when approved by the Boards of Education of Tri County and Barnsdall. A party may determine to terminate the Agreement at the end of the fiscal year and shall provide written notification of such termination to the other party.
3. **Program:** It is the parties' intention to participate in a Medicine and Biosciences Program which will provide an opportunity for sophomores, juniors, and seniors to attend the Program for the purpose of taking classes in math, science, medicine and biosciences. Attachment 1 shall designate the grades of students and courses that may be taught as well as potential plans of study.
4. **Students:** Students shall be enrolled in Barnsdall and Tri County jointly. Students will be selected to attend the Program according to selection criteria as outlined in Attachment 2 to this Agreement. Students who are admitted to the Program will be required to follow Tri County's behavior and conduct policies.
5. **Location:** The Medicine and Biosciences Program shall be located at Tri County Technology Center, 8101 SE Nowata Rd, Bartlesville, Oklahoma. Tri County shall provide the necessary classroom space and classroom equipment for the Program.
6. **Miscellaneous:** This Agreement, including Attachments 1 and 2, shall constitute the entire Agreement of the parties. This Agreement may only be modified or amended in writing signed by both parties. This Agreement shall be subject to and interpreted according to Oklahoma law.

Approved by the Tri County Board of
Education

March 8, 2012
Lindel Fields
Mr. Lindel Fields, Superintendent and CEO
Tri County Technology Center
8101 SE Nowata Road
Bartlesville, OK 74008

Approved by the Barnsdall Board of
Education

April 2, 2012
Rick Loggins
Mr. Rick Loggins, Superintendent
Barnsdall Public Schools
Box 629, Barnsdall, OK 74002

**MEDICINE and BIOSCIENCES
JOINT PROGRAM AGREEMENT**

This Joint Program Agreement (Agreement) is entered by and between Tri County Technology Center District No. 1 (Tri County) and Independent School District No. 18 of Washington County a/k/a Caney Valley Public Schools (Caney Valley).

1. **Purpose:** Tri County and Caney Valley desire to enter into a joint program, pursuant to 70 O.S. §5-117(C), in order to provide a Medicine and Biosciences Program to Caney Valley students.
2. **Term:** This Agreement shall become effective when approved by the Boards of Education of Tri County and Caney Valley. A party may determine to terminate the Agreement at the end of the fiscal year and shall provide written notification of such termination to the other party.
3. **Program:** It is the parties' intention to participate in a Medicine and Biosciences Program which will provide an opportunity for sophomores, juniors, and seniors to attend the Program for the purpose of taking classes in math, science, medicine and biosciences. Attachment 1 shall designate the grades of students and courses that may be taught as well as potential plans of study.
4. **Students:** Students shall be enrolled in Caney Valley and Tri County jointly. Students will be selected to attend the Program according to selection criteria as outlined in Attachment 2 to this Agreement. Students who are admitted to the Program will be required to follow Tri County's behavior and conduct policies.
5. **Location:** The Medicine and Biosciences Program shall be located at Tri County Technology Center, 6101 SE Nowata Rd, Bartlesville, Oklahoma. Tri County shall provide the necessary classroom space and classroom equipment for the Program.
6. **Miscellaneous:** This Agreement, including Attachments 1 and 2, shall constitute the entire Agreement of the parties. This Agreement may only be modified or amended in writing signed by both parties. This Agreement shall be subject to and interpreted according to Oklahoma law.

Approved by the Tri County Board of
Education

March 8, 2012

Lindel Fields
Mr. Lindel Fields, Superintendent and CEO
Tri County Technology Center
6101 SE Nowata Road
Bartlesville, OK 74006

Approved by the Caney Valley Board
of Education

March 5, 2012

Rick Peters
Mr. Rick Peters, Superintendent
Caney Valley Public Schools
PO Box 429a
Ramona, OK 74061-1002

**MEDICINE and BIOSCIENCES
JOINT PROGRAM AGREEMENT**

This Joint Program Agreement (Agreement) is entered by and between Tri County Technology Center District No. 1 (Tri County) and Independent School District No. 04 of Washington County a/k/a Copan Public Schools (Copan).

1. **Purpose:** Tri County and Copan desire to enter into a joint program, pursuant to 70 O.S. §5-117(C), in order to provide a Medicine and Biosciences Program to Copan students.
2. **Term:** This Agreement shall become effective when approved by the Boards of Education of Tri County and Copan. A party may determine to terminate the Agreement at the end of the fiscal year and shall provide written notification of such termination to the other party.
3. **Program:** It is the parties' intention to participate in a Medicine and Biosciences Program which will provide an opportunity for sophomores, juniors, and seniors to attend the Program for the purpose of taking classes in math, science, medicine and biosciences. Attachment 1 shall designate the grades of students and courses that may be taught as well as potential plans of study.
4. **Students:** Students shall be enrolled in Copan and Tri County jointly. Students will be selected to attend the Program according to selection criteria as outlined in Attachment 2 to this Agreement. Students who are admitted to the Program will be required to follow Tri County's behavior and conduct policies.
5. **Location:** The Medicine and Biosciences Program shall be located at Tri County Technology Center, 6101 SE Nowata Rd, Bartlesville, Oklahoma. Tri County shall provide the necessary classroom space and classroom equipment for the Program.
6. **Miscellaneous:** This Agreement, including Attachments 1 and 2, shall constitute the entire Agreement of the parties. This Agreement may only be modified or amended in writing signed by both parties. This Agreement shall be subject to and interpreted according to Oklahoma law.

Approved by the Tri County Board of
Education

March 8, 2012

Lindel Fields

Mr. Lindel Fields, Superintendent and CEO
Tri County Technology Center
6101 SE Nowata Road
Bartlesville, OK 74006

Approved by the Copan Board of
Education

April 2, 2012

Rick Ruckman

Mr. Rick Ruckman, Superintendent
Copan Public Schools
Box 429
Copan, OK 74022


**MEDICINE and BIOSCIENCES
JOINT PROGRAM AGREEMENT**

This Joint Program Agreement (Agreement) is entered by and between Tri County Technology Center District No. 1 (Tri County) and Independent School District No. 07 of Washington County a/k/a Dewey Public Schools (Dewey).

1. **Purpose:** Tri County and Dewey desire to enter into a joint program, pursuant to 70 O.S. §5-117(C), in order to provide a Medicine and Biosciences Program to Dewey students.
2. **Term:** This Agreement shall become effective when approved by the Boards of Education of Tri County and Dewey. A party may determine to terminate the Agreement at the end of the fiscal year and shall provide written notification of such termination to the other party.
3. **Program:** It is the parties' intention to participate in a Medicine and Biosciences Program which will provide an opportunity for sophomores, juniors, and seniors to attend the Program for the purpose of taking classes in math, science, medicine and biosciences. Attachment 1 shall designate the grades of students and courses that may be taught as well as potential plans of study.
4. **Students:** Students shall be enrolled in Dewey and Tri County jointly. Students will be selected to attend the Program according to selection criteria as outlined in Attachment 2 to this Agreement. Students who are admitted to the Program will be required to follow Tri County's behavior and conduct policies.
5. **Location:** The Medicine and Biosciences Program shall be located at Tri County Technology Center, 6101 SE Nowata Rd, Bartlesville, Oklahoma. Tri County shall provide the necessary classroom space and classroom equipment for the Program.
6. **Miscellaneous:** This Agreement, including Attachments 1 and 2, shall constitute the entire Agreement of the parties. This Agreement may only be modified or amended in writing signed by both parties. This Agreement shall be subject to and interpreted according to Oklahoma law.

Approved by the Tri County Board of
Education

March 8, 2012



Mr. Lindel Fields, Superintendent and CEO
Tri County Technology Center
6101 SE Nowata Road
Bartlesville, OK 74006

Approved by the Dewey Board of
Education

March 5, 2012



Mr. Paul Smith, Superintendent
Dewey Public Schools
1 Bulldogger Road
Dewey, OK 74029

**MEDICINE and BIOSCIENCES
JOINT PROGRAM AGREEMENT**

This Joint Program Agreement (Agreement) is entered by and between Tri County Technology Center District No. 1 (Tri County) and Independent School District No. 40 of Nowata County a/k/a Nowata Public Schools (Nowata).

1. **Purpose:** Tri County and Nowata desire to enter into a joint program, pursuant to 70 O.S. §5-117(C), in order to provide a Medicine and Biosciences Program to Nowata students.
2. **Term:** This Agreement shall become effective when approved by the Boards of Education of Tri County and Nowata. A party may determine to terminate the Agreement at the end of the fiscal year and shall provide written notification of such termination to the other party.
3. **Program:** It is the parties' intention to participate in a Medicine and Biosciences Program which will provide an opportunity for sophomores, juniors, and seniors to attend the Program for the purpose of taking classes in math, science, medicine and biosciences. Attachment 1 shall designate the grades of students and courses that may be taught as well as potential plans of study.
4. **Students:** Students shall be enrolled in Nowata and Tri County jointly. Students will be selected to attend the Program according to selection criteria as outlined in Attachment 2 to this Agreement. Students who are admitted to the Program will be required to follow Tri County's behavior and conduct policies.
5. **Location:** The Medicine and Biosciences Program shall be located at Tri County Technology Center, 6101 SE Nowata Rd, Bartlesville, Oklahoma. Tri County shall provide the necessary classroom space and classroom equipment for the Program.
6. **Miscellaneous:** This Agreement, including Attachments 1 and 2, shall constitute the entire Agreement of the parties. This Agreement may only be modified or amended in writing signed by both parties. This Agreement shall be subject to and interpreted according to Oklahoma law.

Approved by the Tri County Board of
Education

March 8, 2012

Lindel Fields

Mr. Lindel Fields, Superintendent and CEO
Tri County Technology Center
6101 SE Nowata Road
Bartlesville, OK 74008

Approved by the Nowata Board of
Education

April 9th, 2012

Fred Bailey

Mr. Fred Bailey, Superintendent
Nowata Public Schools
707 W Osage
Nowata, OK 74048

MEDICINE and BIOSCIENCES JOINT PROGRAM AGREEMENT

This Joint Program Agreement (Agreement) is entered by and between Tri County Technology Center District No. 1 (Tri County) and Independent School District No. 03 of Nowata County a/k/a Oklahoma Union Public Schools (Oklahoma Union).

1. **Purpose:** Tri County and Oklahoma Union desire to enter into a joint program, pursuant to 70 O.S. §5-117(C), in order to provide a Medicine and Biosciences Program to Oklahoma Union students.
2. **Term:** This Agreement shall become effective when approved by the Boards of Education of Tri County and Oklahoma Union. A party may determine to terminate the Agreement at the end of the fiscal year and shall provide written notification of such termination to the other party.
3. **Program:** It is the parties' intention to participate in a Medicine and Biosciences Program which will provide an opportunity for sophomores, juniors, and seniors to attend the Program for the purpose of taking classes in math, science, medicine and biosciences. Attachment 1 shall designate the grades of students and courses that may be taught as well as potential plans of study.
4. **Students:** Students shall be enrolled in Oklahoma Union and Tri County jointly. Students will be selected to attend the Program according to selection criteria as outlined in Attachment 2 to this Agreement. Students who are admitted to the Program will be required to follow Tri County's behavior and conduct policies.
5. **Location:** The Medicine and Biosciences Program shall be located at Tri County Technology Center, 6101 SE Nowata Rd, Bartlesville, Oklahoma. Tri County shall provide the necessary classroom space and classroom equipment for the Program.
6. **Miscellaneous:** This Agreement, including Attachments 1 and 2, shall constitute the entire Agreement of the parties. This Agreement may only be modified or amended in writing signed by both parties. This Agreement shall be subject to and interpreted according to Oklahoma law.

Approved by the Tri County Board of Education

March 8, 2012

Lindel Fields
Mr. Lindel Fields, Superintendent and CEO
Tri County Technology Center
6101 SE Nowata Road
Bartlesville, OK 74006

April 2012
Robert Jobe

Dr. Robert Jobe, Superintendent
Oklahoma Union Public Schools
Rt. 1 Box 377-7
South Coffeyville, OK 74072

Approved by the Oklahoma Union Board of Education

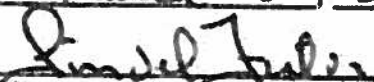
**MEDICINE and BIOSCIENCES
JOINT PROGRAM AGREEMENT**

This Joint Program Agreement (Agreement) is entered by and between Tri County Technology Center District No. 1 (Tri County) and Independent School District No. 02 of Osage County a/k/a Pawhuska Public Schools (Pawhuska).

1. **Purpose:** Tri County and Pawhuska desire to enter into a joint program, pursuant to 70 O.S. §5-117(C), in order to provide a Medicine and Biosciences Program to Pawhuska students.
2. **Term:** This Agreement shall become effective when approved by the Boards of Education of Tri County and Pawhuska. A party may determine to terminate the Agreement at the end of the fiscal year and shall provide written notification of such termination to the other party.
3. **Program:** It is the parties' intention to participate in a Medicine and Biosciences Program which will provide an opportunity for sophomores, juniors, and seniors to attend the Program for the purpose of taking classes in math, science, medicine and biosciences. Attachment 1 shall designate the grades of students and courses that may be taught as well as potential plans of study.
4. **Students:** Students shall be enrolled in Pawhuska and Tri County jointly. Students will be selected to attend the Program according to selection criteria as outlined in Attachment 2 to this Agreement. Students who are admitted to the Program will be required to follow Tri County's behavior and conduct policies.
5. **Location:** The Medicine and Biosciences Program shall be located at Tri County Technology Center, 6101 SE Nowata Rd, Bartlesville, Oklahoma. Tri County shall provide the necessary classroom space and classroom equipment for the Program.
6. **Miscellaneous:** This Agreement, including Attachments 1 and 2, shall constitute the entire Agreement of the parties. This Agreement may only be modified or amended in writing signed by both parties. This Agreement shall be subject to and interpreted according to Oklahoma law.


Approved by the Tri County Board of
Education

March 8, 2012


Mr. Lindel Fields, Superintendent and CEO
Tri County Technology Center
6101 SE Nowata Road
Bartlesville, OK 74003

Approved by the Pawhuska Board of
Education

March 12, 2012


Mr. Ben West, Superintendent
Pawhuska Public Schools
1500 Lynn Ave. 1601 McKenzie Rd.
Pawhuska, OK 74056

**MEDICINE and BIOSCIENCES
JOINT PROGRAM AGREEMENT**

This Joint Program Agreement (Agreement) is entered by and between Tri County Technology Center District No. 1 (Tri County) and Independent School District No. 51 of Nowata County a/k/a South Coffeyville Public Schools (South Coffeyville).

1. Purpose: Tri County and South Coffeyville desire to enter into a joint program, pursuant to 70 O.S. §5-117(C), in order to provide a Medicine and Biosciences Program to South Coffeyville students.
2. Term: This Agreement shall become effective when approved by the Boards of Education of Tri County and South Coffeyville. A party may determine to terminate the Agreement at the end of the fiscal year and shall provide written notification of such termination to the other party.
3. Program: It is the parties' intention to participate in a Medicine and Biosciences Program which will provide an opportunity for sophomores, juniors, and seniors to attend the Program for the purpose of taking classes in math, science, medicine and biosciences. Attachment 1 shall designate the grades of students and courses that may be taught as well as potential plans of study.
4. Students: Students shall be enrolled in South Coffeyville and Tri County jointly. Students will be selected to attend the Program according to selection criteria as outlined in Attachment 2 to this Agreement. Students who are admitted to the Program will be required to follow Tri County's behavior and conduct policies.
5. Location: The Medicine and Biosciences Program shall be located at Tri County Technology Center, 6101 SE Nowata Rd, Bartlesville, Oklahoma. Tri County shall provide the necessary classroom space and classroom equipment for the Program.
6. Miscellaneous: This Agreement, including Attachments 1 and 2, shall constitute the entire Agreement of the parties. This Agreement may only be modified or amended in writing signed by both parties. This Agreement shall be subject to and interpreted according to Oklahoma law.

Approved by the Tri County Board of
Education

March 8, 2012

Lindel Fields
Mr. Lindel Fields, Superintendent and CEO
Tri County Technology Center
6101 SE Nowata Road
Bartlesville, OK 74006

Approved by the South Coffeyville
Board of Education

March 8th, 2012

Colt Shaw
Mr. Colt Shaw, Superintendent
South Coffeyville Public Schools
PO Box 190
South Coffeyville, OK 74072

**MEDICINE and BIOSCIENCES
JOINT PROGRAM AGREEMENT**

This Joint Program Agreement (Agreement) is entered by and between Tri County Technology Center District No. 1 (Tri County) and Independent School District No. 30 of Osage County a/k/a Wynona Public Schools (Wynona).

1. **Purpose:** Tri County and Wynona desire to enter into a joint program, pursuant to 70 O.S. §5-117(C), in order to provide a Medicine and Biosciences Program to Wynona students.
2. **Term:** This Agreement shall become effective when approved by the Boards of Education of Tri County and Wynona. A party may determine to terminate the Agreement at the end of the fiscal year and shall provide written notification of such termination to the other party.
3. **Program:** It is the parties' intention to participate in a Medicine and Biosciences Program which will provide an opportunity for sophomores, juniors, and seniors to attend the Program for the purpose of taking classes in math, science, medicine and biosciences. Attachment 1 shall designate the grades of students and courses that may be taught as well as potential plans of study.
4. **Students:** Students shall be enrolled in Wynona and Tri County jointly. Students will be selected to attend the Program according to selection criteria as outlined in Attachment 2 to this Agreement. Students who are admitted to the Program will be required to follow Tri County's behavior and conduct policies.
5. **Location:** The Medicine and Biosciences Program shall be located at Tri County Technology Center, 6101 SE Nowata Rd, Bartlesville, Oklahoma. Tri County shall provide the necessary classroom space and classroom equipment for the Program.
6. **Miscellaneous:** This Agreement, including Attachments 1 and 2, shall constitute the entire Agreement of the parties. This Agreement may only be modified or amended in writing signed by both parties. This Agreement shall be subject to and interpreted according to Oklahoma law.

Approved by the Tri County Board of
Education

March 8, 2012

M. Lindel Fields

M. Lindel Fields, Superintendent and CEO
Tri County Technology Center
6101 SE Nowata Road
Bartlesville, OK 74006

Approved by the Wynona Board of
Education

April 9, 2012

Dixie R. Hurd

Ms. Dixie Hurd, Superintendent
Wynona Public Schools
PO Box 700
Wynona, OK 74084

**Application for Focused Field of Career Study
Oklahoma State Board of Education**

Minutes Evidencing School Board Approval

**Tri County Technology Center
6101 SE Nowata Road
Bartlesville, OK 74006**

BARNSDALL PUBLIC SCHOOL
Minutes from APRIL 2, 2012 Regular Meeting

1. Meeting was called to order by president, Jimmy Hatfield at 7:00 p.m.
 2. Quorum was established by roll call. Present: Brian Hawes, Fred Williams, Jimmy Hatfield, Billy Moles, Linda Kelley.
 3. Motion was made by Billy Moles, seconded by Fred Williams to adopt agenda. Vote: All yes
 4. Hearing from the public- None
 5. Motion was made by Fred Williams, seconded by Billy Moles to appoint Stefani Shores Minutes Clerk. Vote: All yes
 6. Motion was made by Brian Hawes, seconded by Billy Moles to approve consent agenda with the exception of no treasurer's report: Vote: All yes
 - a. Treasurer's report for March 2012- not available
 - b. Minutes of the March 5, 2012 regular meeting;
 - c. FY 12 General Fund claim 178-181
 - d. Payroll Change Orders for March 2012;
 - e. High School Activity Fund report of March 2012; and
 - f. Elementary School Activity Fund report for March 2012;
 7. Motion was made by Billy Moles, and seconded by Brian Hawes to approve changes to the following purchase orders: Vote: All Yes

2011-12 General Fund			
PO#	VENDOR	GOODS/SERVICE	AMOUNT
13	U.S. Cellular	Cellular Phone Service	\$550.00
60	Endex of Tulsa	Fire Monitoring Service	\$255.00

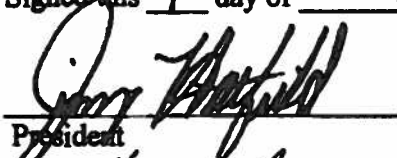
2011-12 Building Fund			
PO#	VENDOR	GOODS/SERVICE	AMOUNT
26	AEP-PSO	Electric Service	\$4,000.00
27	OK Natural Gas	Gas Service	\$3,000.00
 8. Motion was made by Brian Hawes, seconded by Fred Williams to approve the tentative school calendar for the 2012-13 SY. Vote: All Yes
 9. Motion was made by Fred Williams, seconded by Billy Moles to approve contract with Kerry Patten, CPA for the performance of the district's 2011-12 financial audit. Vote: all Yes
 10. Motion made by Fred Williams, seconded by Brian Hawes to approve the Tulsa Model for teacher evaluations starting the 2012-2013 school year. Vote: All yes
-

11. Motion made by Linda Kelley, seconded by Brian Hawes that the district will utilize the current district evaluation system in addition to the teacher evaluation model for the 2012-2013 school year. Vote: all yes
12. Motion made by Billy Moles, seconded by Brian Hawes to approve the McRel model for leader evaluations starting the 2012-2013 school year. Vote: All yes
13. Motion was made by Billy Moles, seconded by Fred Williams that the leader evaluation model adopted by the board will be the exclusive evaluation process for leaders for the 2012-2013 school year. Vote: All yes
14. Motion was made by Brian Hawes, seconded by Billy Moles to approve agreements with Employee Evaluation Systems, Inc. and Tulsa Public Schools for use of the Tulsa Model of the teacher evaluation system for the 2012-13 SY. Vote: All yes
15. Motion was made by Fred Williams, seconded by Brian Hawes to approve resolution for Schools and Libraries Universal Services (E-Rate) for 2012-13 school year. This resolution authorizes the filing of the Form 471 applications for funding year 2012-13 and the payment of the applicant's share upon approval of funding and the receipt of services. Vote: All yes
16. Principal reports:
 - a. Regiena Henderson, Elementary Principal- Report given
 - b. Russell McCauley, JH/HS Principal- Report given
17. Rick Loggins, Superintendent report- Report given
18. Executive Session
 - A. Motion was made by Billy Moles, seconded by Brian Hawes to go into executive session to at 7:53p.m. to discuss the following action pursuant to section 307 (b)(1) of the Oklahoma Open Meeting Act: Vote: All yes
 - i. Staffing for the 2012-13 SY
 - ii. Tutoring contracts for the 2011-12 SY
 - B. Motion was made by Brian Hawes, seconded by Billy Moles to acknowledge return to open session at 8:12p.m. Vote: All yes
 - C. Statement of executive session
19. Motion was made by Linda Kelley, seconded by Brian Hawes to approve tutoring contracts for the 2011-12 SY. Vote: All yes
20. New business, limited to any matter not known about or which could not have been reasonably foreseen prior to the time of posting of this agenda; pursuant to section 311 (a)(9) of the Oklahoma open meeting act.
Motion was made by Fred Williams, seconded by Brian Hawes to approve a Joint Program Agreement between Barnsdall Public Schools 57-I029 and Tri County Technology Center

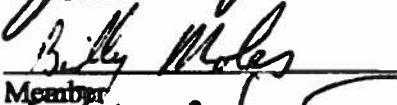
District No. 1 for the purpose of providing a Medicine and Biosciences Program to Barnsdall Students. Vote: All yes

21. Motion made by Fred Williams, seconded by Brian Hawes to adjourn. Vote: All yes

Signed this 7 day of May, 2012



President



Member



Member



Member



Member

The Caney Valley Board of Education met in regular session, March 5, 2012, at the Caney Valley Board Room, Ramona Campus, Ramona, Oklahoma.

The Board of Education may vote to convene in Executive Session to discuss any matter on this agenda for which an Executive Session may be held under Oklahoma Law.

The Board of Education may discuss, make motion, and vote upon all matters appearing upon this agenda. Such votes may be adopt, reject, table, reaffirm, rescind, or take no action on any agenda matter.

The meeting was called to order by Sue P. Woods, President, at 7:00 p.m.

The invocation was led by Buddy Formby.

The Pledge of Allegiance was led by Rick Peters.

Agenda Item #3, Administering Oath of Office to New Board Member

Sue P. Woods, President of the Board, administered the Oath of Office to Joe Lewis, newly re-elected Board Member of Ward 2.

Agenda Item #4, Roll Call

Board members present: Lewis, Formby, Pryce and Woods.

Board member absent: Chew

Agenda Item #5, Reorganization of the Board

5.A Motion by Lewis, seconded by Formby, to elect Sue P. Woods as President of the Caney Valley Board of Education for the 2012-2013 school year

Voting aye were: Lewis, Formby, and Pryce.

5.B Motion by Formby, seconded by Pryce, to elect Joe Lewis, as Vice President of the Caney Valley Board of Education for the 2012-2013 school year.

Voting aye were: Formby, Pryce and Woods.

5.C Motion by Lewis, seconded by Pryce, to elect Buddy L. Formby, as Clerk of the Caney Valley Board of Education for the 2012-2013 school year.

Voting aye were: Lewis, Pryce and Woods

5.D Motion by Formby, seconded by Pryce, to approve Angela Hays as Minute Clerk of the Caney Valley Board of Education, effective April 1, 2012 and for the 2012-2013 school year.

Voting aye were: Lewis, Formby, Pryce and Woods.

Agenda Item #6. Standing Resolutions

Motion by Formby, seconded by Lewis, to approve the Standing Resolutions, numbered 6.A through 6.C, as presented by the Superintendent, effective March 5, 2012.

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Minutes of the
Caney Valley Board of Education
March 5, 2012

6.A Minutes of Previous Meetings

- a. Regular Meeting - February 6, 2012

6.B Approval of Account of Activity Fund

6.C Schedule of Bills

a.	Approval of General Fund Encumbrance List	FY 12	263-283
	In the amount of		\$20,164.30
b.	Approval of Building Fund Encumbrance List	FY 12	-0-
	In the amount of		-0-
c.	Approval of Lunch Fund Encumbrance	FY 12	34-36
	In the amount of		\$383.01
d.	General Fund Warrants	FY 12	1323-1513
	In the amount of		\$411,474.35
e.	Approval of Building Fund Warrants	FY 12	109-120
	In the amount of		\$8,285.14
f.	Approval of Lunch Fund Warrants	FY 12	222-259
	In the amount of		\$35,553.11

Voting aye were: Lewis, Formby, Pryce and Woods.

Agenda Item #7, Superintendent's Report.

Mr. Peters discussed the agenda items and made recommendation to approve them as stated.

Mr. Peters stated that the Summer Reading Academy for 3rd graders is scheduled for four (4) weeks beginning June 4, 2012, through June 28, 2012 and will be held in the Elementary Library. DeLana McDaniel has agreed to be the teacher.

Mr. Peters recommended that Rose Kirk be appointed as the Homeless Liaison and would be doing the computer data entry required for the Homeless Program.

Mr. Peters discussed the State Testing Program. He advised that he, Kelly Longan, School Counselor and several Caney Valley Students, visited with the senators and representatives in Oklahoma City about the State Testing Program. Mr. Peters announced that there were only six (6) Caney Valley students that have not passed the required State Testing.

Mr. Peters reminded the Board of the Ramona Chamber of Commerce Banquet scheduled for Friday evening, March 9, 2012.

Mr. Peters advised the Board of the Middle School Tract Meet schedule for Tuesday, March 13, 2012.

Mr. Peters stated that the Valedictorians and Salutatorians has been selected for this year. Chosen as Valedictorians are: Caleb Kohlmeier, Kaela Chisholm, Lacey McCracken, Brandon Maris, Lyndsey Woodworth, Anesa Tonsing. Chosen as Salutatorians are: Lyndall Berwaldt, Beth Barker, Jarred Brown, Kylee Kinney and Logan Scott. This is a very impressive group for Caney Valley Public School.

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Minutes of the
Caney Valley Board of Education
March 1, 2011

Mr. Peters distributed a printout comparing this year's school's utility bills with last years and discussed same.

Mr. Peters discussed the school days missed for inclement weather. He suggested that April 13, 2012 be used for the make-up day missed on February 13, 2012 because of inclement weather.

Mr. Peters stated that the Title IV Crisis Management Plan has been reviewed and updated, reflecting the change in personnel.

Mr. Peters discussed the proposed trip to San Antonio, Texas requested by the High School Band is for a competition on April 26th and returning April 29, 2012, and recommended approval of same, if the Band could come up with the needed money.

Mr. Peters distributed the 'Bond Election' flyers and discussed the content. He encouraged the Board to distribute some of the flyers to people they know.

Agenda Item #8, Summer Reading Academy

8.A Mr. Peters discussed the Summer Reading Academy program.

8.B Motion by Lewis, seconded by Pryce, to approve the Summer Reading Academy classes at the Elementary Library, Monday through Thursday from 9:00 a.m. to 12:00 noon for four weeks beginning June 4th through June 28, 2012.

Voting aye were: Lewis, Formby, Pryce and Woods.

8.C Motion by Lewis, seconded by Pryce to approve the employment of DeLana McDaniel as the teacher for the Summer Reading Academy classes.

Voting aye were: Lewis, Formby, Pryce and Woods.

Agenda Item #9, Standing Resolutions

9.A There were no fundraisers submitted for this meeting.

9.B Motion by Pryce, seconded by Formby, to approve participation in and the Contract for Vocational Programs funded by the Oklahoma Department of Vocational and Technical Education for the 2012-2013 school year.

Voting aye were: Lewis, Formby, Pryce and Woods.

9.C Motion by Pryce, seconded by Formby, to approve the Agreement with the Osage County Interlocal Cooperative for the 2012-2013 school year in the amount of \$10,610.00. The Contract amount is based on ADM.

Voting aye were: Lewis, Formby, Pryce and Woods.

9.D Motion by Pryce, seconded by Formby, to approve the Substitute Contracts for Thomas v. Dawson, III and Louella Edwards.

Voting aye were: Lewis, Formby, Pryce and Woods.

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Minutes of the
Caney Valley Board of Education
March 5, 2013

9.E Motion by Pryce, seconded by Formby, to approve the Addendums to the Contracts of Teresa Long, for added bus route duty, Leasa Marshall as teacher for Homebound students and an amended Contract for Kalli Longan to include full amount of \$5,000 as the Gear-up Coordinator.

Voting aye were: Lewis, Formby, Pryce and Woods.

9.F Motion by Pryce, seconded by Formby, to approve the rescheduling of the 2001-2012 School Calendar to reflect that April 13, 2012, will be the make-up day for the February 13, 2012 day missed because of inclement weather.

Voting aye were: Lewis, Formby, Pryce and Woods.

9.G Motion by Pryce, seconded by Formby, to appoint Angela Hays as Deputy Treasurer, effective April 1, 2012.

Voting aye were: Lewis, Formby, Pryce and Woods.

Agenda Item #10, 2011-2012 Activity Sub Accounts

10.A Discussed the need to add an item to the Expenditure category in the CV JR-SR-TEACHERS Sub Account.

10.B Motion by Formby, seconded by Lewis, to approve the adding the word 'vending' to the Expenditures in the CV JR-SR TEACHERS, Sub Account and list as 'Concession/vending equipment and supplies.

Voting aye were: Lewis, Formby, Pryce and Woods.

10.C Motion by Formby, seconded by Lewis, to approve transferring moneys from the 'Publication' Sub Account to the CV JR-SR TEACHER Sub Account in the amount of \$500.00 to purchase a vending machine.

Voting aye were: Lewis, Formby, Pryce and woods.

Agenda Item #11, Certified Staff Resignation

11.A Motion by Lewis, seconded by Pryce, to accept the resignation of Cynthia Pruitt, Biology Teacher, effective May 18, 2012.

Voting aye were: Lewis, Formby, Pryce and Woods.

Agenda Item # 12, Support Staff Evaluation

12.A Discussion of the need to establish an evaluation for support employees.

12.B Motion by Formby, seconded by Pryce, to accept the Support Staff Evaluation form as presented and incorporate it in the Board Policy Manual.

Voting aye were: Lewis, Formby, Pryce and Woods.

**Minutes of the
Caney Valley Board of Education
March 5, 2012**

Agenda Item #13, Title IV Crisis Management Plan

13.A Discussion of the Title IV Crises Management Plan and updates that included personnel and phone numbers.

13.B Motion by Lewis, seconded by Formby, to approve the Crisis Management Plan as presented.

Voting aye were: Lewis, Formby, Pryce and Woods.

Item #14, Homeless Education Coordinator

14.A Discussion of purpose to designate a Homeless Education Coordinator to make daily computer data entry related information to the Homeless Program.

14.B Motion by Formby, seconded by Pryce, to appoint Rose Kirk, as Homeless Education Coordinator.

Voting aye were: Lewis, Formby, Pryce and Woods.

Agenda Item #15, Caney Valley Band

15.A Discussion of the proposed Band Trip to San Antonio, Texas for competition and enjoy the scheduled events.

15.B Motion by Pryce, seconded by Formby, to approve the Caney Valley School Band Trip to San Antonio, Texas on April 26th and April 29, 2012^h, for competition and to enjoy the scheduled events before returning to Ramona.

Voting aye were: Lewis, Formby, Pryce and Woods.

Agenda Item # 16, Vo-Ag Show Barn

16.A Motion by Lewis, seconded by Pryce, to accept the \$45,000 grant from Grand Gateway to for the completion of the interior of the Vo-Ag Show Barn on the Caney Valley School property.

Voting aye were: Lewis, Formby, Pryce and Woods.

Agenda 17, New Business of the Board

A 'new business' item, 'Tri County Tech Medicine and Bio Sciences Joint Program Agreement' was requested by Tri County to be brought to the Board before Spring Break to enable Tri County to meet the 'due date' required by the State Department of Education..

17.A Discussion of the 'Joint Program' with Tri County Tech to provide a Medicine and Bioscience Program to Caney Valley School students.

17.B Motion by Formby, seconded by Pryce, to approve entering into an Joint Program Agreement with Tri County Technology Center District No. 1 to provide a medicine and Bioscience Program to Caney Valley School students.

Minutes of the
Caney Valley Board of Education
March 5, 2012

Voting aye were: Lewis, Formby, Pryce and Woods.

Agenda Item #18, Vote to Adjourn

18.A Motion by Woods, seconded by Formby, to adjourn the meeting.

Voting aye were: Formby, Chew and Woods.

The meeting was adjourned at 7:50 p.m.



President of CVS Board of Education



Clerk of CVS Board of Education



Member of CVS Board of Education

Member of CVS Board of Education



Member of CVS Board of Education

Member of CVS Board of Education

**Regular Board Meeting Minutes
Copan Board of Education
April 2, 2012
527 Hornet Lane
Copan, Ok. 74022
6:00pm
Copan Board Room**

Recorder: Bonnie May

Meeting called to order by Mike Carver, President. Time 6:00pm.

**Present: Mike Carver-President
Julie Jennings-Vice President
Dana Trimble-Clerk
Tim Bryan-Member
Shane Cameron-Member**

Others Present: Rick Ruckman, Tina Judkins.

Carver made motion to approve the minutes for the March 5, 2012 meeting and March 26, 2012 Special meeting, Monthly financial report of Activity fund, Treasurer's report on status of funds. Cameron 2nd. Jennings yes, Trimble yes, Bryan yes, Cameron yes, Carver yes. Vote 5-0.

Bryan made motion to approve the warrants & encumbrances as presented. Jennings 2nd. Bryan yes, Cameron yes, Jennings yes, Trimble yes, Carver yes. Vote 5-0.

No hearing the public.

Jennings made motion to approve the fundraisers as presented. Carver 2nd. Jennings yes, Bryan yes, Cameron yes, Trimble yes, Carver yes. Vote 5-0.

No action taken on approving authorized voting representative for Copan School with OSAG.

Bryan made motion to approve contract with Municipal Accounting Systems, Inc. for Wen-Gage student information, Wen-Gage i-gradebook and Wen-Gage I-lunch Room for FY13. Jennings 2nd. Jennings yes, Bryan yes, Cameron yes, Trimble yes, Carver yes. Vote 5-0.

Carver made motion to approve agreement with Tri County Tech Center to provide transportation for Career Tech students. Cameron 2nd. Bryan yes, Cameron yes, Trimble yes, Jennings yes, Carver yes. Vote 5-0.

Bryan made motion to approve adoption of Leader evaluation model for FY13. Trimble 2nd. Bryan yes, Cameron yes, Jennings yes, Trimble yes, Carver yes. Vote 5-0.

Mr. Ruckman presented the Board with the Annual Dropout Report and College Remediation Report.

No action was taken on the possible change in food service program.

Bryan made motion to go into executive session to discuss all personnel including the certified personnel listed on Appendix A and any resignations received, so the board can return to open session and take action. Carver 2nd. Bryan yes, Cameron yes, Jennings yes, Trimble yes, Carver yes. Vote 5-0. Time 6:35pm.

Carver made motion to approve the return to open session. Bryan 2nd. Trimble yes, Cameron yes, Bryan yes, Jennings yes, Carver yes. Vote 5-0. Time 6:55pm.

President Mike Carver made statement that nothing was discussed in executive session except what was on the agenda and no votes taken.

Carver made motion to approve all certified teachers as listed on Appendix A. Cameron 2nd. Jennings yes, Cameron yes, Bryan yes, Trimble yes, Carver yes. Vote 5-0.

Carver made motion to approve the resignation as presented. Bryan 2nd. Bryan yes, Cameron yes, Trimble yes, Jennings yes, Carver yes. Vote 5-0.

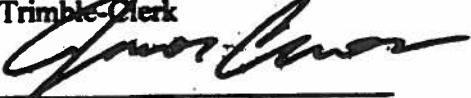
Mr. Ruckman and Tina Judkins both gave reports on upcoming events for April & May. (Included in minutes).

Bryan made motion to approve Tri County Tech new class, Medicine and Biosciences Joint Program Agreement. Jennings 2nd. Cameron yes, Trimble yes, Bryan yes, Jennings yes, Carver yes. Vote 5-0.

Bryan made motion to adjourn. Carver 2nd. Trimble yes, Cameron yes, Bryan yes, Jennings yes, Carver yes. Vote 5-0. Time 7:10pm.



Dana Trimble-Clerk



Mike Carver-President

INDEPENDENT SCHOOL DISTRICT I-7 DEWEY, OKLAHOMA

Board Minutes for The Dewey Board of Education

ADMINISTRATION BUILDING, TIME: 6:00 PM REGULAR SESSION X SPECIAL SESSION ___ Date: March 5, 2012

Visitors Present: List Attached

Call to Order by: President Cher Shriver

1 Roll Call of members: Cher Shriver-P David Chancellor-P Amber Hargrove-P Chad Williams-P Marshall McGraw-P

2 _____ Public Participation. (None)
3 VOTE: David Chancellor made the motion to: Approve the minutes of the February 6, 2012 Regular Dewey Board of Education Meeting and the February 11, 24, and 29, 2012 Special Dewey Board of Education Meeting.

Secended by: Amber Hargrove Voting Yes: Shriver-P Chancellor-P Hargrove-P Williams-P McGraw-P

4 VOTE: Amber Hargrove made the motion to: Approve the Consent Agenda as follows:
Approval of Encumbrances.
Approval of Warrants.
Approval of Financial Report.

Secended by: Cher Shriver Voting Yes: Shriver-P Chancellor-P Hargrove-P Williams-P McGraw-P

5 _____ Communications.
6 _____ Building Principal Reports.

7 VOTE: David Chancellor made the motion to: Approve the employment of Sanders, Bledsoe, and Hewett as Dewey Public Schools auditor for the 2012-2013 school year.

Secended by: Chad Williams Voting Yes: Shriver-P Chancellor-P Hargrove-P Williams-P
Voting No: McGraw-P

8 VOTE: Cher Shriver made the motion to: Approve participation in the 2012 Oklahoma Prevention Needs Assessment Survey.

Secended by: Chad Williams Voting Yes: Shriver-P Chancellor-P Hargrove-P Williams-P McGraw-P

9 VOTE: Cher Shriver made the motion to: Schedule out of school days for two unmsed bad weather days as March 30 & April 9.

Secended by: Amber Hargrove Voting Yes: Shriver-P Chancellor-P Hargrove-P Williams-P McGraw-P

10 Discussion to select Teacher and Leader Evaluation models to be piloted during the 2012-2013 school year. Further research and information suggested. Re-visit April meeting.

11 Shawn Imhoff - Presentation and discussion of special education program monitoring visit by the Oklahoma State Department of Education.

12 VOTE: David Chancellor made the motion to: Accept the resignation of Linda Clark - Remedial Reading Teacher.

Secended by: Chad Williams Voting Yes: Shriver-P Chancellor-P Hargrove-P Williams-P McGraw-P

13 VOTE: Cher Shriver made the motion to: Employ one Middle School teacher (Jennette Swygard) and one Special Education teacher (Rita Hemphill) to temporary contracts to complete the 2011-2012 school year.

Secended by: David Chancellor Voting Yes: Shriver-P Chancellor-P Hargrove-P Williams-P McGraw-P

14 VOTE: Amber Hargrove made the motion to: Approve a one week day camp June 4-8 to be sponsored by the Cherokee Nation.

Secended by: Marshall McGraw Voting Yes: Shriver-P Chancellor-P Hargrove-P Williams-P McGraw-P

15 _____ New Business:

VOTE: David Chancellor made the motion to: Approve a Medicines & Bioclances Joint Program Agreement between Tri County Tech and Dewey Public Schools.

Secended by: Cher Shriver Voting Yes: Shriver-P Chancellor-P Hargrove-P Williams-P McGraw-P

16 VOTE: Amber Hargrove made the motion to: Adjourn. (7:15pm)

Secended by: David Chancellor Voting Yes: Shriver-P Chancellor-P Hargrove-P Williams-P McGraw-P

Cher Shriver PRESIDENT

David Chancellor VICE PRESIDENT

Amber Hargrove CLERK

Chad Williams ASST CLERK

Marshall McGraw MEMBER

Lorna Hogue BOARD SECRETARY

(Handwritten signatures of Cher Shriver, David Chancellor, Amber Hargrove, Chad Williams, Marshall McGraw, and Lorna Hogue)

**NOWATA PUBLIC SCHOOL
BOARD OF EDUCATION**

**Regular Meeting
High School Commons Area
707 West Osage**

Nowata, Oklahoma 74048

April 9, 2012

6:00 p.m.

Members Present: Rick Holland, President
Rick Reid, Vice-president
Clint Hallett, Clerk
Linda Patton, Member
Terry Glasscock, Member
Fred Bailey, Superintendent
Dee Armstrong, Board Minute Clerk

Posting of Agenda:

Date: April 5, 2012
Time: 3:00 p.m.
Person: Fred Bailey
Location: Office of the Superintendent
Office of Nowata County Clerk
Municipal Office

- Item 1.** The president called the meeting to order in the High School Commons area and noted that all members were present.
- Item 2.** Cristel Miller and Angelia Franke, Nowata Classroom Teachers Association representatives, were also present at the meeting.
- Item 3.** Mrs. Patton made a motion, seconded by Mr. Glasscock to approve the following items on the consent agenda:
- A.** Minutes of the March 12, 2012 Regular Meeting
 - B.** Treasurer's Report for March 2012
 - F.** General Fund Expenditure Comparison Analysis for March 2012

The motion carried (5-0) as follows: Glasscock-yes, Patton-yes, Hallett-yes, Reid-yes, Holland-yes. A copy of the documents will be made part of the permanent board file.

- Item 4.** Dr. Reid made a motion to approve encumbrances #555 through #575 in the amount of \$7,596.05 from the General Fund, #11 in the amount of \$5,000.00 from the Building Fund, and #33 through #37 in the amount of \$2,268.03 from the Child Nutrition Fund. Mr. Hallett seconded and the motion carried (5-0) as follows: Glasscock-yes, Patton-yes, Hallett-yes,

Reid-yes, Holland-yes. A copy of the encumbrances and change order listings will be made part of the permanent board file.

Item 5. Mr. Glasscock made a motion to approve the Student Activity Fund Report for the month of March 2012, seconded by Dr. Reid. Motion carried (5-0) as follows: Glasscock-yes, Patton-yes, Hallett-yes, Reid-yes, Holland-yes. A copy of the report will be made part of the permanent board file.

Item 6. The superintendent reported the following:

- (1) Our architect, Mike Stacy, started advertising and sending out plans and specs for our construction projects. The bids are to be opened Wednesday, May 9, and voted on at our regular board meeting on May 14. If we are going to have more than two board members at the May 9, bid opening, we will need to call a special meeting. Just a reminder on construction bids. It is the best bid, not necessarily the lowest bid, that we are seeking.
- (2) We have not had much information from State Department of Education regarding funding for the 2012-2013 school year. The last notice indicated that education would not receive any cuts.

Item 7. Michelle Miller, Elementary Principal:

- (1) Elementary teachers have spent the last few weeks teaching the last objectives to prepare their students for the O.C.C.T.'s
- (2) Tomorrow is our Kick-off Pep Assembly for third, fourth and fifth grades to encourage students to do their best on the tests. We will perform a skit and give them a list of incentives they can be eligible for, based on attendance, behavior, and effort during the O.C.C.T.'s. Rewards include large candy bars, pop, cash, and an Acer Laptop.
- (3) Our testing begins Wednesday, April 11, and ends Monday, April 16 with the exception of any makeups that need to be given.
- (4) There are twenty-five days of school left with tons of activities taking place, so the elementary will be extremely busy until May 18.
- (5) Three specific dates for board members to remember are: Thursday, April 26 is the Volunteer Reception at 3:30 p.m. in the Elementary Cafeteria, Thursday, May 3, is the Come and Go Retirement Reception for Mr. Bailey from 4:00 until 6:00 p.m. in the elementary cafeteria, and Tuesday, May 15 is the District Retirement Reception at 3:30 p.m. in the elementary cafeteria.

Item 8. Kathy Berry, Middle School Principal:

- (1) Seventh and eighth grade students will travel to the State Academic Meet leaving on April 20 to compete on April 21 in Norman.

- (2) April 30, is sixth grade orientation night at 6:00 p.m.
- ~~(3) April 28, Mrs. Prince will take the beginning band to Band Festival.~~
- (4) Eighth Grade graduation will take place on May 15, at 6:00 p.m. with a dance following.
- (5) This year, the seventh grade will be taking their tests online. The students seem to do well in the past with this method.

Item 9. Bron Williams, High School Principal:

- (1) Tomorrow morning, Tuesday, April 10, we will have a simulated accident at the high school. The accident will be staged by the Nowata Fire Department with all county law enforcement and emergency agencies taking part. Every fifteen minutes a student will be called from the classroom and have their face painted white to indicate a fatality has just taken place. This is representative of the number of people killed as a result of drinking and driving or texting and driving.
- (2) Shelbie Black has won the last three golf tournaments she has participated in. We're very proud of Shelbie and are expecting great opportunities for her.
- (3) With baseball, golf, track, and spring activities, we have students and teachers absent almost daily.

Item 10. Cristel Miller, representing the Nowata Classroom Teachers Association reported the following:

- (1) All teachers are busy preparing for testing.
- (2) The Middle School is asking for parent donations of treats for student testing.
- (3) NCTA has started negotiations and things are going very well.
- (4) NCTA held a meeting March 30 to discuss and vote to approve using the OKTLE System, Tulsa Public School model for evaluations.

Item 11. Mrs. Berry introduced Shawn Imhoff, candidate for Middle School Principal, and Tana Haas, candidate for Elementary Principal. Dr. Reid made a motion to approve the Personnel Report for March 2012. Mrs. Patton seconded and the motion carried, (5-0) as follows: Patton-yes, Glasscock-yes, Hallett-yes, Reid-yes, Holland-yes. A copy of the Personnel Report will be made part of the permanent board file.

Item 12. Mrs. Patton made a motion to approve a joint program between Tri County Tech and Nowata Public Schools in order to provide a Medicine and Biosciences Program for Nowata students, pursuant to 70 O.S. 5-117(C). Mr. Hallett seconded and the motion carried (5-0) as follows:

Patton-yes, Glasscock-yes, Hallett-yes, Reid-yes, Holland-yes. A copy of the agreement will be made part of the permanent board file.

Item 13. Mr. Hallett made a motion to approve a License Agreement with EMPLOYEE EVALUATION SYSTEMS INC. (EES). Mr. Glasscock seconded and the motion carried (5-0) as follows: Patton-yes, Glasscock-yes, Hallett-yes, Reid-yes, Holland-yes. A copy of the agreement will be made part of the permanent board file.

Item 14. Mrs. Patton made a motion to adopt a resolution to set the date, time and place for the sale of the \$525,000.00 General Obligation Combined Purpose Bonds of the School District. The Bonds will be sold on the 10th day of May, 2012, at 1:00 p.m. at Nowata Public School. Dr. Reid seconded and the motion carried (5-0) as follows: Patton-yes, Glasscock-yes, Hallett-yes, Reid-yes, Holland-yes. A copy of the Resolution will be made part of the permanent board file.

Item 15. Dr. Reid made a motion to approve an Application for Temporary Appropriations in the amount of \$7,059,487.00 for the General Fund, \$272,599.00 for the Building Fund, and \$368,631.00 for the Child Nutrition Fund. Mr. Hallett seconded and the motion carried (5-0) as follows: Patton-yes, Glasscock-yes, Hallett-yes, Reid-yes, Holland-yes. A copy of the Application will be made part of the permanent board file.

Item 16. There was no new business to come before the board.

Item 17. With no further business to come before the board, Mr. Glasscock made a motion to adjourn. Dr. Reid seconded and the motion carried (5-0) as follows: Glasscock-yes, Hallett-yes, Patton-yes, Reid-yes, Holland-yes. The meeting was adjourned at 6:25 p.m.

ATTEST:

President, Board of Education

Chris Hallett

Clerk, Board of Education

[Signature]

Member

[Signature]

Member

Linda L Patton

Member

**OKLAHOMA UNION PUBLIC SCHOOL
REGULAR BOARD MEETING MINUTES
APRIL 11, 2012
HWY 10 AND HWY 169
ELEMENTARY LIBRARY**

President Ron Carter called the meeting to order at 7:00 p.m. Members present were Ron Carter, Doug Sonenberg, Roger Carroll, Eric Epperson, and Mark Huntington. Others present were Robert Jobe - Superintendent, Karrie Griffey - Minutes Clerk, and Kevin Stacy - Teacher.

Motion by Sonenberg, seconded by Huntington to approve agenda. Motion carried 5-0.

Motion by Sonenberg, seconded by Epperson to approve the minutes from the last regular board meeting. Motion carried 5-0.

Motion by Epperson, seconded by Sonenberg to approve Purchase orders 211-214 and warrants 1437-1608 and building fund warrants 22-27 and purchase orders 14-20. Motion carried 5-0.

Hearing from the public - none

Motion by Sonenberg, seconded by Carroll to set the bond sale for the \$250,000 build bonds voted and approved on by this school district May, 12, 2009, to be set on May 11, 2012 at noon in the Elementary Library. Motion carried 5-0.

Motion by Epperson, seconded by Carroll to approve the temporary appropriations for the 2012-2013 school year. Motion carried 5-0.

Motion by Sonenberg, seconded by Epperson to approve the McRel evaluations system for the teacher and principal evaluations. Motion carried 5-0.

Student drug testing policies are under consideration by the board. All policies presented to the board will be reviewed and further consideration will be taken at the next regular board meeting.

The board signed the 2011-2012 diplomas and contracts.

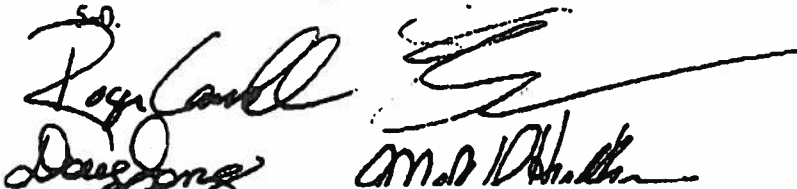
Motion by Huntington, seconded by Sonenberg to approve the low of \$154,000, bid by Brewer Construction, for the Women's field house. Motion carried 5-0.

Motion by Sonenberg, seconded by Huntington to approve the Medicine and Biosciences Joint Program Agreement. Motion carried 5-0.

New Business - none

Information to the Board - Prom is Saturday, FFA Banquet is May the 17th, Graduation is May the 11th, Sports banquet is May the 14th. State testing is this week through the 1st week in May. Financial report was reviewed with the board.

Motion by Sonenberg, seconded by Epperson to adjourn the meeting at 8:11 p.m. Motion carried

5-0.


Pawhuska, Oklahoma
March 12, 2012

The Board of Education met in regular session on Monday, March 12, 2012 at 5:30 pm in the Administration Building.

President Sellers called the meeting to order and welcomed visitors.

Present: Loftis, Boone, Sellers, Supt. West, Minutes Clerk West

Arrived late: Bighorse

Absent: Smith

Guests: Chris Harris, Jeff Bute, Terri Bute, Kaci Jo Bute, Shelby Bute, Carol Kelley, Austin Minshall, Les Potter, Beverly Moore, Lynn Fuller, Joel Witcher, Jon Marie Wilson, Robbie Burnett, Annie Elsberry, Michelle Malaske, Tara Malaske, Greg Griffin, LaRay Florence, Thressa Rowland, Essa Rowland, Angie Phillippi, Maloree Thompson, Kaytlyn Swan, Kellie Waddle, Brian Waddle, Terri Culver, Jon D. Culver

A motion by Loftis, seconded by Boone, to certify the Annual School Election results of 2/14/2012. The motion carried by the following vote: Loftis aye, Boone aye, Sellers aye.

Clerk West administered the Oath of Office to Jeff W Bute, Seat #2.

Reorganization of the Board

A motion by Loftis, seconded by Bute, to elect Justin Sellers as President to the Board of Education. The motion carried by the following vote: Boone aye, Loftis aye, Sellers aye.

A motion by Boone, seconded by Bute, to elect Lori Loftis as Vice President to the Board of Education. The motion carried by the following vote: Boone aye, Loftis aye, Sellers aye.

A motion by Loftis, seconded by Bute, to elect John Bighorse as Clerk to the Board of Education. The motion carried by the following vote: Boone aye, Loftis aye, Sellers aye.

Comments from Visitors

Annie Elsberry addressed the Board in support of re-employment of her building principal, Les Potter.

Bighorse arrived at this time.

Spotlight

Supt. West recognized Cameron Kirk as State Champion Wrestler and announced that he was also selected to participate this summer in Small East All State Games in Tulsa. Supt. West also recognized Jeremy Irons for placing 3rd in State Wrestling and Coach Rogers.

Coach Austin Minshall reported to the Board on Girls Basketball Program.

Beverly Moore updated Board on summer school collaboration with Osage Nation Boys and Girls Club.

Superintendent's Report – Ben West

- 1) Reported on Parent Portal Access and District Grade Book

- 2) Announced that Honors Banquet held Monday, March 4 was a great success
- 3) Stated that open transfers will be accepted until April 1, 2012
- 4) Reported that Larry Fry, SDE Regional Accreditation officer will be here for Accreditation Audit next month
- 5) Announced OSSBA/CCOSA 2012 Conference will be held August 24-26, 2012
- 6) Reported that OSTP mandated tests CRT and EOI will be next month
- 7) Reviewed Common Core Standards Implementation timeline included in board packet
- 8) Discussed Teacher Leader Evaluation Frameworks
- 9) Updated Board on Bond Projects
- 10) Reminded members of special Board Meeting Wednesday, March 24, 2012 at 5:30 pm.

Reviewed and discussed Board Policies:

CHEA – Suspension and Debarment Compliance
 COB-P – Food Procurement Protest Procedures
 Disavowing Resolution

After discussion and consideration, a motion was made by Loftis, seconded by Bighorse, to approve the consent agenda as follows:

- A) Minutes of the February 13, 2012 Regular Board Meeting
- B) Transfers as attached
- C) Use of grounds and outside restrooms at Pawhuska Indian Camp for a community wide Easter Egg Hunt on April 7, 2012 from 8 am – 2 pm by First Baptist Church
- D) First Baptist Church of Pawhuska to use Bus #35 for a trip to Falls Creek, Davis, OK on July 23-28, 2012.
- E) Banner for soccer to be placed under football scoreboard during this soccer season only
- F) Use of facilities for HS/JH Cheer tryouts: Clinic will be March 12, 13, 14 from 5-6:30 pm and tryouts are March 16th JH @ 11:00 am and HS @ 1:00 pm
- G) Spring Band Concert, Thursday, April 26, 2012 and all day schedule
- H) FFA trip requests:
 - a. March 27 – Dewey Speech Contest
 - b. March 31 – EOSC Livestock Judging Contest
 - c. April 2 – OSU Speech Contest
 - d. April 3 – Pryor Speech Contest
 - e. April 3 – NEO Horse Judging Contest
 - f. April 7 – NEO Livestock Judging Contest
 - g. April 9 – NE District Ag 1 Quiz Bowl Contest
 - I) BPA trip request to OKC, March 27, 2012
 - J) Vocal trip request to attend the state level solo/ensemble contest at OBU in Shawnee on April 19/20, 2012
 - K) Dates for Special Olympics trip request and use of vehicles: Area Track Meet in Dewey, April 14, 2012 and State Track Meet is May 9-11, 2012
 - L) Huskie Club (After School Program) out of county trip request on April 16, 2012 during the school day to attend the Tulsa Driller Game, Rain make up day will be April 20, 2012
 - M) OERB 1st grade trip request to Wolaroc on May 11, 2012
 - N) Trip request for 1st grade to go to Williams Park on May 18, 2012
- O) Wrestling requests:
 - a. Start up of Freestyle wrestling
 - b. Pay for USA wrestling cards out of wrestling funds
 - c. Ability to use suburbans for tournaments in Tulsa area
 - P) Student Activity Account Report for February 2012
 - Q) Treasurer's Report and Investment Report for February 2012
 - R) Appropriations, Change Orders, and Encumbrances:

General Fund PO #s 157-178, 70150 in the amount of \$27,766.97
Change Order #s 8, 70142 in the amount of \$1,578.75

Building Fund # 2143 in the amount of \$79.00 and Change Order #2120 in
the amount of \$1,100.00

Child Nutrition # 70013 in the amount of \$8,034.49 and Change Order #s
2208, 2212 in the amount of \$30,000.00

Gift Fund PO #s 8118-8132 in the amount of \$4,358.85

The motion carried by the following vote: Bighorse aye, Boone aye, Loftis aye, Bute
aye, Sellers aye.

A motion by Loftis, seconded by Bighorse, to approve Youthworks to use
showers during the summer of 2012. The motion carried by the following vote:
Bighorse aye, Boone aye, Bute aye, Loftis aye, Sellers aye.

A motion by Bighorse, seconded by Loftis, to approve joint program agreement
between Pawhuska Schools and Tri-County Technology Center to provide a Medicine
and Biosciences Program to Pawhuska students. The motion carried by the following
vote: Bighorse aye, Boone aye, Bute aye, Loftis aye, Sellers aye.

A motion by Loftis, seconded by Bighorse, to approve local application for
Secondary Career and Technology Education Programs for school year 2012-2013. The
motion carried by the following vote: Bighorse aye, Boone aye, Bute aye, Loftis aye,
Sellers aye.

A motion by Loftis, seconded by Bighorse, to approve the 2012-2013
membership fee of \$11,570.00 to Osage County Interlocal Cooperative and to pay the
2012-2013 membership fee on or before 8/1/12. The motion carried by the following
vote: Bighorse aye, Boone aye, Bute aye, Loftis aye, Sellers aye.

A motion by Bighorse, seconded by Loftis, to approve the annual software for the
Follett-Destiny Library Management System in the amount of \$3,249.68. The motion
carried by the following vote: Bighorse aye, Boone aye, Bute aye, Loftis aye, Sellers
aye.

A motion by Loftis, seconded by Bighorse, to approve Contract for Audit of
Public School 2011-2012 school year. The motion carried by the following vote:
Bighorse aye, Boone aye, Bute aye, Loftis aye, Sellers aye.

A motion by Loftis, seconded by Bighorse, to continue agreement with Oklahoma
Department of Human Services (OKDHS) for School Based Service Workers for the
2012-2013 school year. The motion carried by the following vote: Bighorse aye, Boone
aye, Bute aye, Loftis aye, Sellers aye.

A motion by Bighorse, seconded by Loftis, to approve Techworks Academy
Agreement with Tri-County Tech for 2012-2013. The motion carried by the following
vote: Bighorse aye, Boone aye, Bute aye, Loftis aye, Sellers aye.

A motion by Loftis, seconded by Bute, to approve the revised 2011-2012
Academic Calendar to include snow make-up day. The motion carried by the following
vote: Bighorse aye, Boone aye, Bute aye, Loftis aye, Sellers aye.

A motion by Loftis, seconded by Bighorse, to approve resignation of Sammie
Frost as Pawhuska High School Cheer Coach, effective at the end of the 2011-2012
school year. The motion carried by the following vote: Bighorse aye, Boone aye, Bute
aye, Loftis aye, Sellers aye.

A motion by Loftis, seconded by Bute, to accept the resignation of Teri
Blankinship, bus driver/custodian/maintenance, effective February 6, 2012. The motion

carried by the following vote: Bighorse aye, Boone aye, Bute aye, Loftis aye, Sellers aye.

A motion by Bighorse, seconded by Boone, to approve resignation of Chris Harris, District Technology Director, effective at the end of the 2011-2012 contract year. The motion carried by the following vote: Bighorse aye, Boone aye, Bute aye, Loftis aye, Sellers aye.

A motion by Bighorse, seconded by Loftis, to approve resignation due to retirement of Jewell Collins, Child Nutrition worker, effective last day of school, May 2012. The motion carried by the following vote: Bighorse aye, Boone aye, Bute aye, Loftis aye, Sellers aye.

New Business

A motion by Loftis, seconded by Bighorse, to approve Gen Fund change order # 123 to Oakley Chevrolet Buick Pontiac in the amount of \$500.00. The motion carried by the following vote: Bighorse aye, Boone aye, Bute aye, Loftis aye, Sellers aye.

A motion by Loftis, seconded by Bighorse, to approve Bldg Fund PO #2144 to Weather Shack in the amount of \$69.95. The motion carried by the following vote: Bighorse aye, Boone aye, Bute aye, Loftis aye, Sellers aye.

A motion by Bighorse, seconded by Loftis, to approve Bldg Fund PO #2145 to True Green Chemlawn in the amount of \$250.00. The motion carried by the following vote: Bighorse aye, Boone aye, Bute aye, Loftis aye, Sellers aye.

A motion by Bighorse, seconded by Boone, to accept the resignation of Eddy Scott, effective at the end of the 2011-2012 school year. The motion carried by the following vote: Bighorse aye, Boone aye, Bute aye, Loftis aye, Sellers aye.

Comments from the Board

Loftis inquired about reinstalling security cameras at each construction site.

Boone requested that the lights on the outside of the High School be adjusted so that he could read the writing on the wall.

Proposed Executive Session to discuss reemployment of Encumbrance and Minutes Clerk, Deputy Encumbrance Clerk and Minutes Clerk, Treasurer, Secretary to Superintendent/ Deputy Treasurer for the 2012-2013 school year, 25 O.S. Sec. 307 (B)(1) and discussing any matter where disclosure would violate confidentiality requirements of state or federal law, 25 O.S. Sec 307 (B)(7)

A motion by Loftis, seconded by Bighorse, to convene in Executive Session. The motion carried by the following vote: Bighorse aye, Boone aye, Bute aye, Loftis aye, Sellers aye.

EXECUTIVE SESSION

A motion by Loftis, seconded by Bute, to acknowledge the Board has returned to open session. The motion carried by the following vote: Bighorse aye, Boone aye, Bute aye, Loftis aye, Sellers aye.

Clerk Bighorse read the Executive Session compliance statement, as attached.

A motion by Loftis, seconded by Bighorse, to approve reemployment of Linda West as Encumbrance and Minutes Clerk for the 2012-2013 school year. The motion carried by the following vote: Bighorse aye, Boone aye, Bute aye, Loftis aye, Sellers aye.


A motion by Bighorse, seconded by Loftis, to approve reemployment of Sara Pitts as Deputy Encumbrance and Minutes Clerk for the 2012-2013 school year. The motion carried by the following vote: Bighorse aye, Boone aye, Bute aye, Loftis aye, Sellers aye.

A motion by Loftis, seconded by Bighorse, to approve reemployment of Elizabeth Hembree as Treasurer for the 2012-2013 school year. The motion carried by the following vote: Bighorse aye, Bute aye, Loftis aye, Sellers aye, Boone nay.


A motion by Loftis, seconded by Bighorse, to approve reemployment of Michelle Malaske as Secretary to the Superintendent and Deputy Treasurer for the 2012-2013 school year. The motion carried by the following vote: Bighorse aye, Boone aye, Bute aye, Loftis aye, Sellers aye.

A motion by Loftis, seconded by Bute, to reemploy Les Potter as Elementary Principal grades 3-6 for the 2012-2013 school year. The motion carried by the following vote: Bighorse aye, Boone aye, Bute aye, Loftis aye, Sellers aye.

A motion by Loftis, seconded by Bighorse, to adjourn. The motion carried by the following vote: Bighorse aye, Boone aye, Bute aye, Loftis aye, Sellers aye.



Approved



Attest

**SOUTH COFFEYVILLE SCHOOL I-51
BOARD OF EDUCATION
March 8, 2012
REGULAR BOARD MEETING**

The South Coffeyville School Board met in regular session at 6:30 pm on March 8, 2012 in the cafeteria of the South Coffeyville School located at 600 East 5th Street, South Coffeyville, Oklahoma. The agenda was posted on the west door of the South Coffeyville School Superintendent's Office at 4:00 pm on Monday, March 5, 2012.

ROLL CALL:

Wade Lamb, Vice-President, called the meeting to order with roll call. Debbie Lee, Melinda Henry and Wade Lamb answered. Barry Kallenberger and Lisa Compston were absent. The vice-president declared a quorum present.

AGENDA:

Henry motioned to approve agenda
Second was made by Lee.
Lee-yes; Lamb-yes, Henry-yes
Motion carried (3-0)

MINUTES:

Henry motioned to approve the minutes of the February 13, 2012 regular meeting.
Second was made by Lee.
Lee-yes; Lamb-yes, Henry-yes
Motion carried (3-0)

ACTIVITY ACCOUNT AND TREASURERS REPORT: (Copies attached)

Mr. Shaw presented the Activity Account and Treasurer's Report.

ENCUMBRANCES:

Henry motioned to approve the General Fund Encumbrances #162 - #169.
Second was made by Lee.
Lee-yes; Henry-yes; Lamb-yes
Motion carried (3-0).

EXECUTIVE SESSION:

No action taken

HIRING CERTIFIED PERSONNEL:

Henry motioned the hiring of certified personnel. Second was made by Lee.
Lee-yes; Lamb-yes; Henry-yes
Motion carried (3-0)

2012 DRIVER EDUCATION PROGRAM

Rental/lease has increased approximately \$1000 from prior summer. Board discussed using agriculture truck for drivers education. Also, charge per student would be \$100.

Henry motioned. Second was made by Lee.
Lee-yes; Henry-yes; Lamb-yes
Motion carried (3-0)

SCHOOL AUDIT CONTRACT

School audit contract and letter of engagement with Sanders, Bledsoe and Hewitt.

Henry motioned. Second was made by Lee.
Lee-yes; Henry-yes; Lamb-yes
Motion carried (3-0)

2012-2013 SCHOOL CALENDAR

Discussed the four calendar options with staff and their preference was option 3. School would begin on August 20, 2012 and dismissal will be May 10, 2013.

Henry motioned. Second was made by Lee.
Lee-yes; Henry-yes; Lamb-yes
Motion carried (3-0)

TRANSFER FUNDS

Discussed transfer of \$878.62 from the Activity Fund's General Administration to the General Fund for reimbursement for Barbara Long working concessions for the Athletic Department.

Henry motioned. Second was made by Lee.
Lee-yes; Henry-yes; Lamb-yes
Motion carried (3-0)

SCHOOL BUSINESS

The district has until April 15, 2012 to decide on the type of evaluation system that will be used for administrators and instructors.

NOTE: BARRY KALLENBERGER ARRIVED AT 7:20 PM

NEW BUSINESS

Increase Dollar Tire contract by \$1000

Henry motioned. Second was made by Lee

Henry-yes; Lee-yes; Lamb-yes; Kallenberger-yes
Motion carried (4-0)

Hire Boynton Williams as architect to look at drainage issues.

Henry motioned. Second was made by Kallenberger.

Henry-yes; Lee-abstain; Lamb-yes; Kallenberger-yes
(Motion carried (3-1))

Discussed joining the Medical and Bio-Science at Tri-County Tech. There would be no additional cost to join this. The program would also allow sophomores that are interested in these type of careers the ability to go to these classes.


Henry motioned. Second was made by Lee.
Henry-yes; Lee-yes; Lamb-yes; Kallenberger-yes

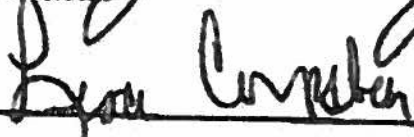
ADJOURNMENT

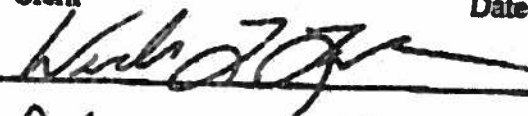
Meeting was adjourned at 7:30 PM

Kallenberger motioned. Second was made by Lee.

Henry-yes; Lee-yes; Lamb-yes; Kallenberger-yes
Motioned carried (4-0)


 _____ 4-9-12
 President Date


 _____ 4/9/12
 Clerk Date



 Ms. D. J. Lee

OPEN MEETING
TO DISCUSS TITLE I, TITLE VII, GIFTED & TALENTED, TECHNOLOGY, TITLE II D,
READING SUFFICIENCY, AND CLEP PLAN
WYNONA BOARD OF EDUCATION ROOM
3RD & ANTWINE
APRIL 9, 2012
6:30 P.M.

REGULAR MEETING
WYNONA BOARD OF EDUCATION
3RD AND ANTWINE
WYNONA OKLAHOMA
APRIL 9, 2012
7:00 P.M.

Note: The board may discuss, vote to approve, vote to disapprove, vote to table, or decide not to discuss or amend any item on the agenda.

1. Call the meeting to order.
2. Establish a quorum.
3. Consideration and vote to approve/disapprove consent agenda items:
 - A. Agenda for regular board meeting of April 9, 2012.
 - B. Minutes for regular board meeting of March 12, 2012.
 - C. Treasurer's report
 - D. General Fund Encumbrances # 104-110
Warrants # 504-593
 - E. Building Fund Encumbrances # 47-49
Warrants # 51-54
 - F. Bond Fund Encumbrances NONE
Warrants NONE
 - G. Grant Fund Encumbrances # 92-94
Warrants # 202-256
 - H. Sinking Fund Payments # 4184-4186 (Bond payments and interest)
 - I. Activity Fund Balance for March \$13,338.97
4. Accept resignations.
5. Discussion and possible action to approve the Crisis Management Plan for 2012.
6. Discussion and possible action to approve a company to replace printers.
7. Discussion and possible action to approve the TCI plan for Medicine and Biosciences program for sophomores and up.
8. Discussion and possible action to approve MOU for Osage County Health Department for MTPS.
9. Superintendent's report.
10. New Business:
(Any item that could not have been foreseen or known about at the time the agenda was distributed. If such an item is a topic for an executive session, it is permitted (A.G. Opin. No 82-114))
11. Adjournment.

FILED
STATE OF OKLAHOMA
2012 APR -9 AM 7:56
OSAGE COUNTY CLERK
DENNY HUTSON
BY _____ DEP.

HELD AT THE WYNONA SCHOOL ADMINISTRATIVE BUILDING AT 7:00 P.M. ON APRIL 9, 2012.

ATTEST: Ymcie
MINUTE CLERK

****Open Meeting to TO DISCUSS TITLE I, TITLE VII, GIFTED & TALENTED, TECHNOLOGY, TITLE II D, READING SUFFICIENCY, AND CLEP PLAN**

Regular Meeting
Wynona Board of Education
April 09, 2012

1. The meeting was called to order by Katherine Hollowell at 7:00pm.
2. Quorum was established. Present were Gerri Surritte, Katherine Hollowell, Rebecca Lay, Dixie Hurd, and Bobbi McGill. Steven Holt and Christyae Looney were absent.
3. Motion made by Gerri Surritte and seconded by Rebecca Lay to approve the consent agenda items.
AYES: All in favor.
NAYES: None.
4. Motion made by Katherine Hollowell and seconded by Gerri Surritte to accept the resignation of Steven Holt from the board.
AYES: All in favor.
NAYES: None.
5. Motion made by Gerri Surritte and seconded by Rebecca Lay to approve the Management Plan for 2013.
AYES: All in favor.
NAYES: None.
6. Motion made by Gerri Surritte and seconded by Rebecca Lay to approve Rekab Builders Ltd. to replace the doors.
AYES: All in favor.
NAYES: None.
7. Motion made by Katherine Hollowell and seconded by Gerri Surritte to approve the T.C.T plan for Medicine and Biosciences program for sophomores and up.
AYES: All in favor.
NAYES: None.
8. Motion made by Katherine Hollowell and seconded by Rebecca Lay to approve MOU for Osage County Health Department for MIPS.
AYES: All in favor.
NAYES: None.
9. Superintendent's Report: Ms. Hurd gave a brief report on the following items-
 - April 20 Prom
 - April 16-30 Testing
 - Principal Interviews
 - April 30 Native American Day

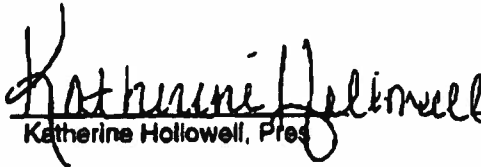
- Sports
- Open Transfers
- Field Trips
- May 10 Science Fair
- May 17 Kindergarten Graduation

10. New Business: NONE

11. Adjournment: Motion made by Katherine Hollowell and seconded by Rebecca Lay to adjourn at 7:22pm.

AYES: All in favor.

NAYES: None.


 Katherine Hollowell, Pres

ABSENT

Christyrae Looney, Vice Pres


 Gerri Surritte, Clerk

ABSENT
 Steven Holt, Member


 Rebecca Lay, Member

**Application for Focused Field of Career Study
Oklahoma State Board of Education**

Documentation of Higher Education Involvement

**Tri County Technology Center
6101 SE Nowata Road
Bartlesville, OK 74006**

The University of Oklahoma

Office of Community Partnership and Health

Project Lead The Way

Project Lead the Way (PLTW), www.pltw.org, offers a strong, grassroots support system for STEM education and a powerful, national college and university presence to create the best opportunities for students and teachers across the country. PLTW's college and university partners play an important role in our network by providing an impressive and important range of support and services, such as admission preference and scholarships for students or professional development for teachers.

Above and beyond our standard partnerships, PLTW collaborates intimately with a group of institutions designated as University Affiliates. Our University Affiliates are colleges and universities that have an agreement with PLTW to facilitate the delivery of the PLTW programs. They provide and coordinate activities such as professional development, college-level recognition, program quality initiatives, and statewide/regional support and communication. These institutions are represented with either an ENG icon to indicate an Engineering Affiliate, or a BMS icon to indicate a Biomedical Sciences Affiliate.

The University of Oklahoma Health Sciences Center (OUHSC) is a Project Lead The Way University Affiliate. OUHSC is one of only four comprehensive academic health centers in the United States which offers all seven health science related disciplines on one campus. The Colleges of Medicine, Public Health, Dentistry, Pharmacy, Nursing, Allied Health and the Graduate College educate students at the professional, graduate, and undergraduate levels to become highly qualified health care practitioners, educators, and research scientists.

The Health Sciences Center is the State of Oklahoma's major health professions educational institution, training physicians, dentists, nurses, pharmacists, public health specialists, and a wide range of allied health personnel who conduct research and creative activities for the advancement of knowledge and care and who provide continuing education, public service, and health care of exemplary quality. OUHSC is recognized for contributing its specialized knowledge and expertise to the growing health sciences hub in central Oklahoma.

OUHSC University Affiliate Contacts:

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Last Updated: March 7, 2012

Office of Community Partnerships & Health Policy
University of Oklahoma Health Sciences Center
College of Public Health Building, Room 21
801 NE 13th Street - Oklahoma City, OK 73104
Phone: 405.271.2380
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The University of Oklahoma Health Sciences Center - 1100 N. Lindsay, Oklahoma City, OK 73104 - (405) 271-4000

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University of Oklahoma Health Sciences Center (OUHSC)

601 NE 13th Street | CMS Room 21 | Oklahoma City, OK 73128-0301

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<http://www.ouhsc.edu/communitypartnership/Topp/ProjectLeadtheWay.asp>



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University Information

The University of Oklahoma Health Sciences Center (OUHSC) is one of only four comprehensive academic health centers in the United States which offers all seven health science related disciplines on one campus. The Colleges of Medicine, Public Health, Dentistry, Pharmacy, Nursing, Allied Health and the Graduate College educate students at the professional, graduate, and undergraduate levels to become highly qualified health care practitioners, educators, and research scientists.

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Upcoming Training Events

Human Body Systems (HBS)

Starts Sun, June 17, 2012

Ends Fri, June 29, 2012

Sessions: 2

Cost: \$2,400.00

Seats: 20 (15 available)

Room And Board: Registration includes local transportation and most meals. Room and Board: \$1,500- Single lodging at local hotel. Included in tuition, Breakfast (10), Lunch (10), Dinner (10). Cancellation Policy: No fee at least 3 wks before start of class; \$500 after two weeks but prior to class start; Full Tuition for no shows.

Principles of the Biomedical Sciences (PBS)

Starts Sun, June 3, 2012

Ends Fri, June 15, 2012

Sessions: 1

Cost: \$2,400.00

Seats: 20 (15 available)

**Application for Focused Field of Career Study
Oklahoma State Board of Education**

Documentation of Mathematics and Science Courses Meeting PASS

**Tri County Technology Center
6101 SE Nowata Road
Bartlesville, OK 74006**



Medicine and Biosciences (MED)

Chemistry I

COURSE DESCRIPTION: This course is designed to provide instruction in modern chemistry which includes an analytical approach to the concepts of chemistry including theoretical concepts, mathematical conversions and advances in chemistry.

Chemistry I

Objective	National Science Education Standards 9-12 Content Standards	Oklahoma C³ Standards
Laboratory Techniques		
<ul style="list-style-type: none"> • Display appropriate and safe chemistry classroom and laboratory behavior 	A	
<ul style="list-style-type: none"> • Display proper equipment handling for laboratory use 	A	
Matter and Measurements		
<ul style="list-style-type: none"> • Define matter, elements, atoms, and compounds 	A, B	Content 1.1, 1.2, 1.3, 1.4
<ul style="list-style-type: none"> • Distinguish between chemical and physical properties 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5
<ul style="list-style-type: none"> • Describe matter by its chemical and physical properties 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5
<ul style="list-style-type: none"> • Explain the standard units for length, mass, time, and temperature 	A	
<ul style="list-style-type: none"> • Explain the Scientific method and be able to use when presented real-world situations 	A	
<ul style="list-style-type: none"> • Be able to use significant figures appropriately in scientific calculations 	A	
<ul style="list-style-type: none"> • Be able to use scientific notation in scientific calculations 	A, B	
<ul style="list-style-type: none"> • Compare and contrast precision and accuracy 	A, B	Content 1.1, 1.2, 1.3
Atoms and Periodic Table		
<ul style="list-style-type: none"> • Explain the Atomic Theory and have an understanding of its history 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5

<ul style="list-style-type: none"> Explain the functional structure of the Periodic Table 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5
<ul style="list-style-type: none"> Define mole and explain how it is used in chemistry 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.3
<ul style="list-style-type: none"> Be able to calculate molar mass 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.3
<ul style="list-style-type: none"> Understand and explain the characteristic properties of families of elements 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5
Molecules and Compounds		
<ul style="list-style-type: none"> Be able to name and write formulas 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5
<ul style="list-style-type: none"> Determine empirical formula of a compound from its mass percent composition 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5
<ul style="list-style-type: none"> Explain the role of a valence electron in an ion 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5
<ul style="list-style-type: none"> Be able to describe an ion and how it will react with other elements 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5
Chemical Reactions and Stoichiometry		
<ul style="list-style-type: none"> Write and balance chemical equations 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.4
<ul style="list-style-type: none"> Explain mass-mole relationships 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.3
<ul style="list-style-type: none"> Identify and define the types of chemical reactions 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.1
<ul style="list-style-type: none"> Define and determine limiting reactants 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2
<ul style="list-style-type: none"> Define and determine percent yield 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2
Aqueous Solutions and Reactions		
<ul style="list-style-type: none"> Define and explain the 	A, B	Content

differences of the three types of aqueous reactions (acid-base, precipitations, gas-forming, oxidation-reduction)		1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2
<ul style="list-style-type: none"> Describe net ionic equations 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5
<ul style="list-style-type: none"> Explain how to prepare molar solutions 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.3, 2.4
<ul style="list-style-type: none"> Apply the pH scale to calculate the concentration of hydronium ions and hydroxide ions given the pH of a solution 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.3, 2.4
<ul style="list-style-type: none"> Describe how an acid base titration is formed 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.3, 2.4
Gases		
<ul style="list-style-type: none"> Define the Gas Laws (Boyles Law, Charles Law, Combined Gas Law, Ideal Gas Law, Dalton's Law) and be able to use mathematically. 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.2, 2.3, 2.4
<ul style="list-style-type: none"> Define diffusion and effusion and be able to calculate the rates 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4
Energy and Chemical Reaction		
<ul style="list-style-type: none"> Describe the affect of temperature on chemical reactions 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.3, 2.4
<ul style="list-style-type: none"> Explain specific heat and have knowledge of how it can be measured 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.3, 2.4
<ul style="list-style-type: none"> Explain enthalpy and how it can be used with Hess's Law 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.3, 2.4
<ul style="list-style-type: none"> Distinguish between heat and temperature 		Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4
<ul style="list-style-type: none"> Understand what is meant by caloric content in foods 	A, B	Content 1.1, 1.2, 1.3, 1.4,

		1.5, 2.1, 2.2, 2.3, 2.4, 5.3
Atomic Structure		
<ul style="list-style-type: none"> Explain the Quantum Mechanical Model 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.3, 2.4
<ul style="list-style-type: none"> Explain energy levels and orbitals of atomic structures and be able to diagram 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.3, 2.4
<ul style="list-style-type: none"> Understand Bohr's Model and explain how its been modernized 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.3, 2.4
<ul style="list-style-type: none"> Explain electron configuration and be able to do electron dot configuration 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.3, 2.4
<ul style="list-style-type: none"> Describe trends in the Periodic Table and be able to predict an element's reactivity 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.3, 2.4
Molecular Structure		
<ul style="list-style-type: none"> Define and explain Lewis structures 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.3, 2.4
<ul style="list-style-type: none"> Explain Ionic and covalent bonding and be able to determine how elements will combine 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.3, 2.4
<ul style="list-style-type: none"> Explain electronegativity and explain its effects on chemical reactions 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.3, 2.4
<ul style="list-style-type: none"> Define and explain Resonance structures 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.3, 2.4
<ul style="list-style-type: none"> Define and explain VSEPR structures 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.3, 2.4
Labs/Activities		
<p>Laboratory techniques Students will:</p> <ul style="list-style-type: none"> Use the scientific method to solve real-life problems presented in case study form. 	A	Process 1.1, 1.2, 1.3, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8,

<ul style="list-style-type: none"> Organize information to facilitate analysis of your data Draw graphs that present data clearly and accurately Interpret data in tables, charts, and graphs Draw conclusions that are supported by experimental data Analyze data using common statistical measures Apply your knowledge of the scientific method to real-life situations 		6.1, 6.2, 6.3, 6.4
<p>Accuracy and precision Students will:</p> <ul style="list-style-type: none"> Experience differences between precision and accuracy Formulate hypotheses about precision, accuracy, and probability Calculate probability for experimental experiences Discuss the outcome of the experiment 	A, B	<p>Content 1.1, 1.2, 1.3 Process 1.1, 1.2, 1.3, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.7, 6.2, 6.3, 6.4</p>
<p>Separation of mixtures Students will:</p> <ul style="list-style-type: none"> Determine type of mixture Conduct an investigation to separate a homogenous mixture Discuss the outcome of the experiment Write a detailed lab report citing all steps taken in the scientific method. 	A, B	<p>Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4 Process 1.1, 1.2, 1.3, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 6.1, 6.2, 6.3, 6.4</p>
<p>Flame tests Students will:</p> <ul style="list-style-type: none"> Conduct an investigation to view the different colors of flames emitted by the different solutions Chart the color emitted by the different elements and identify like colors Discuss the outcome of the experiment Write a detailed lab report citing all 	A, B	<p>Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.4 Process 1.1, 1.2, 1.3, 2.1, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 6.1, 6.2, 6.3, 6.4</p>

steps taken in the scientific method.		
Percent composition of hydrates Students will: <ul style="list-style-type: none"> • Conduct an experiment to determine the number of moles of water associated with one mole of copper sulfate in the hydrate • Write the correct formula for the hydrate • Write a detailed lab report citing all steps taken in the scientific method. 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.3, 2.4 Process 1.1, 1.2, 1.3, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 6.1, 6.2, 6.3, 6.4
Polymers Students will: <ul style="list-style-type: none"> • Prepare a condensation polymer • Discuss common polymer they encounter in everyday life • Conduct an experiment to cross-link a polymer and observe the changes in the physical properties as a result of this cross-linking. The changes in physical properties of a cross-linked polymer are also studied as the temperature is varied. • Write a detailed lab report citing all steps taken in the scientific method. 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.2, 2.3, 2.4 Process 1.1, 1.2, 1.3, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 5.3, 6.1, 6.2, 6.3, 6.4
Stoichiometry and Gravimetric Analysis Students will: <ul style="list-style-type: none"> • Recall chemical symbols as part of chemical equations • Convert word equations to chemical formulas • Apply correct chemical nomenclature • Conduct an experiment to determine the mass of an element by isolating it in a solid compound of known identity and definite composition. • Write a detailed lab report citing all steps taken in the scientific method. 	A, B	Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4 Process 1.1, 1.2, 1.3, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 5.1, 5.2, 6.1, 6.2, 6.3, 6.4
Stoichiometry of reactions Students will:	A, B	Content 1.1, 1.2, 1.3, 1.4,

<ul style="list-style-type: none"> • Apply the concept of stoichiometric coefficient relating to reaction ratios • Balance equations • Discuss the reasons for balancing equations • Calculate empirical formulas from percentage by mass data • Conduct an experiment testing computations of percent yield with actual lab results. • Write a detailed lab report citing all steps taken in the scientific method. 		<p>1.5, 2.1, 2.2, 2.3, 2.4</p> <p>Process</p> <p>1.1, 1.2, 1.3, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 6.1, 6.2, 6.3, 6.4</p>
<p>Calorimetry and Hess's Law Students will:</p> <ul style="list-style-type: none"> • Calculate the heat of formation of magnesium oxide using Hess's law • Assuming the heat capacity of the HCl is the same as that of water, calculate the amount of heat liberated when the magnesium reacted • Assuming the heat capacity of the acid is the same as that of water, conduct an experiment in order to calculate the amount of heat liberated when the MgO reacted 	<p>A, B</p>	<p>Content</p> <p>1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4</p> <p>Process</p> <p>1.1, 1.2, 1.3, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 6.1, 6.2, 6.3, 6.4</p>
<p>Calorimetry and molarity Students will:</p> <ul style="list-style-type: none"> • Calculate the number of moles (n) of sulfuric acid (volume in Liters Calculate the number of moles (n) of sulfuric acid (volume in Liters times molarity in mol/l) in mol/l) • Conduct an experiment to find the molar enthalpy of the fusion of ice.(melting of ice) • Calculate the total volume of the two solutions (both sulfuric acid and sodium hydroxide) • Calculate the mass of the two solutions combined • Calculate the molar enthalpy of 	<p>A, B</p>	<p>Content</p> <p>1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4</p> <p>Process</p> <p>1.1, 1.2, 1.3, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 6.1, 6.2, 6.3, 6.4</p>

sulfuric acid		
<p>Boiling point elevation and molar mass Students will:</p> <ul style="list-style-type: none"> • Determine the change in boiling point from the observed boiling point of the solution and the boiling point of the pure solvent • Determine the molar concentration, m, from the change in boiling point and the boiling point elevation constant • Determine the moles of unknown (the solute) from the molality of the solution and the mass of solvent (in kilograms) used to make the solution • Determine the molar mass from the mass of the unknown and the number of moles of unknown 	<p>A, B</p>	<p>Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4</p> <p>Process 1.1, 1.2, 1.3, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 6.1, 6.2, 6.3, 6.4</p>
<p>Equilibrium and expressions Students will:</p> <ul style="list-style-type: none"> • Observe and describe some reactions, which are easily reversible, and some, which are not easily reversible. • Consider the implications for a system when the rates of the forward and the reverse reactions that define the system are equal. • Discuss non-chemical analogies, which illustrate or simulate equilibria. • Distinguish between dynamic equilibria and steady-state processes. • Discuss the influence of free energy on the spontaneity of reactions. • Understand why Le Chatelier's principle works. • Use Le Chatelier's principle to predict how various equilibrium systems will shift in response to external stress and then conduct a series of experiments altering, first the temperature in a stable chemical reaction and then the concentration effects. • Write a detailed lab report citing all 	<p>A, B</p>	<p>Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4</p> <p>Process 1.1, 1.2, 1.3, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 5.1, 5.3, 6.1, 6.2, 6.3, 6.4</p>

<p>steps taken in the scientific method.</p> <ul style="list-style-type: none"> Discuss industrial applications of Le Chatelier's principle. 		
<p>Acid-base titration Students will:</p> <ul style="list-style-type: none"> Perform an acid-base titration to determine the concentration of an acid solution Use the results to calculate the unknown concentration of an acid or a base Given data from three or more titrations, students should be able to identify the strongest concentration of unknown 	A, B	<p>Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4</p> <p>Process 1.1, 1.2, 1.3, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 5.2, 6.1, 6.2, 6.3, 6.4</p>
<p>Buffering (Acid-base) Students will:</p> <ul style="list-style-type: none"> Compare an unbuffered solution with a buffered solution by using the technique of titration Interpret explanations of the effects of buffers Collect data and record figures Graph data and figures Write a detailed lab report citing all steps taken in the scientific method. 	A, B	<p>Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4</p> <p>Process 1.1, 1.2, 1.3, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 6.1, 6.2, 6.3, 6.4</p>
<p>Reaction rate Students will:</p> <ul style="list-style-type: none"> Determine the rate of reaction at a given point in time Determine the stoichiometric coefficients for a chemical reaction Explore variables that affect reaction rate by experimentation. Write a detailed lab report citing all steps taken in the scientific method. 	A, B	<p>Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4</p> <p>Process 1.1, 1.2, 1.3, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 6.1, 6.2, 6.3, 6.4</p>
<p>Redox titration Students will:</p> <ul style="list-style-type: none"> Find the % hydrogen peroxide in a commercially sold solution Find the % iron in an unknown iron salt Write the balanced net ionic equation 	A, B	<p>Content 1.1, 1.2, 1.3, 1.4, 1.5, 2.3, 2.4</p> <p>Process 1.1, 1.2, 1.3, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4,</p>

for the reaction <ul style="list-style-type: none"> • Identify the oxidizing and reducing agents • Write a detailed lab report citing all steps taken in the scientific method. 		4.5, 4.6, 4.7, 4.8, 6.1, 6.2, 6.3, 6.4
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Resources

Standards

National Science Standards (5th ed). (1998). National Research Council, Washington, D.C., National Academy of Sciences

Oklahoma C³. Oklahoma State Department of Education -{
www.sde.state.ok.us}

Textbooks

Zumdahl, Steven (2003). *Introductory Chemistry: A Foundation* (5th ed.). Boston: Houghton Mifflin.

Corwin, (2005). *Introductory Chemistry: Concepts and Connections*(4th ed.). Upper Saddle River, New Jersey: Pearson Prentice Hall.

Hill, Petrucci (2005). *General Chemistry* (4th ed.). Upper Saddle River, New Jersey: Pearson Prentice Hall.

Singh, M.M., Pike, R.M., Szafran, Z. (1995). *Microscale and Selected Macroscale Experiments for General and Advanced General Chemistry: An Innovative Approach* (1st ed.). John Wiley & Sons, Inc.

Burns, Ralph A. (2003). *Fundamentals of Chemistry in the Laboratory*(4th ed.). Upper Saddle River, New Jersey: Pearson Prentice Hall.

Corwin, (2006). *Lab Manual Introductory Chemistry* (4th ed.). Upper Saddle River, New Jersey: Pearson Prentice Hall.

Gloffke, Wendy and Doris Kimbrough (2002). *Introductory Chemistry Laboratory Manual* (2nd ed.). San Francisco, CA: Benjamin Cummings.

Tyner, Kathy L. (1995). *Laboratory Exercises for Preparatory Chemistry* (1st ed.). New York, NY: McGraw-Hill.



Medicine and Biosciences (MED)

Microbiology

COURSE DESCRIPTION: This course incorporates theory and foundation knowledge with laboratory investigations in order for students to use higher order thinking skills. Students will use scientific methods during investigations, and make informed decisions using critical thinking and problem solving. The course will encompass the study of microbiology that includes the relationship of microorganisms to wellness and disease. A history of microbiology will be covered as well as various scientific areas that use these concepts. The student will develop knowledge and skills related to disease prevention by learning the chain of infection, asepsis, and standard precautions. Environmental, food, and industrial microbiology will be studied. Classification of pathogenic and nonpathogenic organisms will be delved into in order to assist in the understanding of specific diseases, causative agents, and treatment options. Students will see how microbiology affects all aspects of our lives, from our health, to the foods we eat, to biotechnology and recombinant DNA. Students will learn by various methods, including, but not limited to, group and individual activities, cooperative learning, presentations, and technology to enhance the learning environment.

Microbiology

Objectives	National Science Education Standards 9-12 Content Standards	Oklahoma C³ Standards
I. History of Microbiology		
A. Explain the importance of observations made by Robert Hooke and Anton van Leeuwenhoek	A, C, F, G	
B. Compare and contrast the contributions of Needham, Spallanzani, Virchow, and Pasteur	A, C, F, G	
C. Understand and be able to explain the connection between spoilage of food and microorganisms as a major step toward establishing the relationship between disease and microbes	A, C, F, G	
D. Explain how Pasteur's work influenced Lister and Koch.	A, C, F, G	
E. Explain how Edward Jenner altered preventative health care.	A, C, F, G	
F. Evaluate the contributions to microbiology made by Ehrlich and Fleming.	A, C, F, G	

G. Discuss the value of the Human Genome Project	A, C, E, F, G	
II. Relationship of Microbes and Human Welfare		
A. Be able to discuss several beneficial activities of microorganisms	A, C, E, F, G	
B. Explain how viruses are used in gene therapy	A, C, E, F, G	
III. Human Microbial Diseases		
A. Identify several emerging infectious diseases and explain why they are emerging	A, C, E, F, G	
B. Analyze resistance and all factors that lead to it	A, C, F, G	
C. Evaluate and explain normal human flora	A, C, F, G	
IV. Microscopy		
A. Have a working understanding of the metric units used in microscopy that are used for microorganisms	A	
B. Explain the path of light through a compound microscope	A, E	
C. Calculate total magnification and resolution	A, E	
D. Identify a use for darkfield, phase-contrast, differential interference contrast, fluorescence, confocal, and scanning acoustic microscopy, and	A, C, E	

compare each with brightfield illumination		
E. Explain how a scanning electron microscope works and how it benefits microbiology	A, C, E	
F. Describe the appearance of gram- positive and gram- negative cells after each step of preparing a Gram stain	A, C, E	
G. Compare and contrast the Gram stain and the acid-fast stain	A, C, E	
H. Be able to analyze and identify special stains in order to isolate specific parts of microorganisms	A, C, E	
V. Functional Anatomy of Microorganisms		
A. Compare and contrast the overall cell structure of prokaryotes and eukaryotes	A, C	
B. Discuss evidence that supports the endosymbiotic theory of eukaryotic evolution	A, C, F, G	
C. Differentiate between eukaryote and prokaryote organelles	A, C	
D. Apply knowledge of the functions of the organelles in order to explain how microorganisms are able to survive	A, F	
VI. Microbial Metabolism		

<p>A. Understand the two types of metabolism and be able to discuss how energy is transferred in both</p>	<p>B, C</p>	
<p>B. Describe the mechanism of enzymatic action</p>	<p>C</p>	
<p>C. Explain all factors that affect enzymatic activity and why they are catalysts</p>	<p>C</p>	
<p>D. Describe and explain how feedback inhibition is used to control functions in the human body</p>	<p>A, C</p>	
<p>E. Explain what is meant by oxidation-reduction</p>	<p>C</p>	
<p>F. List and provide examples of three types of phosphorylation reactions that generate ATP</p>	<p>C</p>	
<p>G. Understand and explain the products of cellular respiration and how this process affects the body as a whole</p>	<p>C</p>	
<p>H. Know the alternate pathways bacteria use instead of glycolysis</p>	<p>C</p>	
<p>I. Discuss the differences between aerobic and anaerobic respiration</p>	<p>C</p>	
<p>J. Describe the chemical reactions and products of fermentation</p>	<p>C</p>	
<p>K. Discuss biochemical tests to</p>		

identify bacteria in the laboratory		
L. Compare and contrast cyclic and noncyclic photophosphorylation	C	
M. Compare and contrast the light- dependent and light- independent reaction of photosynthesis	C	
N. Categorize the various nutritional patterns among organisms according to carbon source and mechanisms of carbohydrate catabolism and ATP generation	A, C	
O. Describe the major types of anabolism and their relationship to catabolism	C	
P. Understand where amphibolic pathways are used and why	A, C	
VII. Microbial Growth		
A. Classify microbes according to preferred temperature range	A, C	
B. Identify how and why the pH of culture media is controlled	A, C	
C. Explain the importance of osmotic pressure to microbial growth	A, C	
D. Identify ways in which aerobes avoid damage by toxic forms of oxygen	A, C	
E. Explain how microbes are classified on the basis of oxygen	A, C	

requirements		
F. Know the use of the elements needed in large amounts for microbial growth	A, C	
G. Justify the use of each of the following: anaerobic techniques, living host cells, candle jars, selective and differential media, enrichment medium	A, C	
H. Have an understanding of the different types of medium and when each is used	A, C	
I. Describe how pure cultures can be isolated by using the streak plate method	A, C	
J. Explain how microorganisms are preserved by deep-freezing and lyophilization	A, C	
K. Understand the two ways bacteria divide and how generation time can be calculated	A, C, F	
L. Compare the phases of microbial growth, and describe their relation to generation time	A, C, F	
M. Explain the direct methods of measuring cell growth	A, C, F	
N. Differentiate between direct and indirect methods of measuring cell growth	A, C	
VIII. Control of Microbial Growth		
A. Have a basic	A, C	

understanding of factors that control microbial growth		
B. Describe the patterns of microbial death caused by treatments with microbial control agents	A, C	
C. Compare the effectiveness of moist heat and dry heat on microbial control	A, C	
D. Describe how filtration, low temperatures, high pressure, desiccation, and osmotic pressure suppress microbial growth	A, C	
E. Describe radiation effects on cells	A, C	
F. Interpret the results of use-dilution tests and the disk- diffusion method	A, C	
G. Identify and differentiate between the types of disinfectants	A, C	
H. Identify the method of sterilizing plastic labware	A, C	
I. Explain how the control of microbial control is affected by the type of microbe	A, C	
IX. Microbial Genetics		
A. Understand and be able to describe the DNA molecule	A, C	
B. Describe the process of DNA replication	A, C	
C. Describe protein	A, C	

synthesis, including transcription, RNA processing, and translation		
D. Explain the regulation of gene expression in bacteria by induction, repression, and catabolite repression	A, C	
E. Classify mutations and describe how they are prevented or repaired	A, C	
F. Understand what a mutagen is and its frequency rate	A, C	
G. Explain how an Ames test is used	A, C	
H. Compare the mechanisms of genetic recombination in bacteria	A, C	
I. Describe the function of plasmids and transposons	A, C	
X. Recombinant DNA Technology and Biotechnology		
A. Explain the importance of recombinant DNA technology	A, C, E, F	
B. Identify the roles of a clone and a vector in making recombinant DNA	A, C, E, F	
C. Discuss artificial selection and how it affects populations	A, C, E, F	
D. Have a working knowledge of restriction enzymes and how they are used to make recombinant	A, C, E, F	

DNA		
E. Describe the use of plasmid and viral vectors	A, C, E, F	
F. Know the PCR technique and provide examples of its use	A, C, E, F	
G. Explain and understand several techniques of getting DNA into a cell	A, C, E, F	
H. Be able to select the best method of selecting recombinant bacteria	A, C, E, F	
I. Explain several applications of rDNA technology	A, C, E, F	
J. Have a working knowledge of Bioinformatics and be able to use this in the analysis of DNA sequences	A, C, E, F	
K. Diagram the Southern blotting procedure and give examples of its use	A, C, E, F	
L. Discuss DNA fingerprinting as a diagnostic tool	A, C, E, F	
M. Discuss the aspects of genetically modified plants and identify the complex social issues that connected to this area of microbiology	A, C, E, F	
XI. Nomenclature of Microorganisms		
A. Differentiate among eukaryotic, prokaryotic, and viral species	C	

B. Use the biological classification system to classify organisms	A, C	
C. Distinguish between the different kingdoms of multicellular Eukarya	C	
D. Describe how staining and biochemical tests are used to identify bacteria	A, C, E	
E. Differentiate between Western and Southern blotting	A, C, E	
F. Explain how serological tests and phage typing can be used to identify an unknown bacterium	A, C, E	
G. Use PCR, DNA fingerprinting, or DNA base composition to classify and describe a newly discovered microbe	A, C, E	
H. Identify microorganisms by nucleic acid hybridization, Southern blotting, DNA chips, ribotyping, and FISH	A, C, E	
XII. Epidemiology		
A. Discuss the different aspects of the study of Pathology	A, C, E, F, G	
B. Compare and contrast between normal and transient microbes	C	
C. Compare and contrast commensalisms, mutualism, and	C, F	

parasitism and give examples of each		
D. Be able to use Koch's postulates to discuss the framework for etiology of infectious disease	A, C, E	
E. Distinguish between communicable and noncommunicable diseases and categorize according to frequency of occurrence	C	
F. Identify several predisposing factors for disease	C	
G. Using previous knowledge, describe and discuss the stages of disease	C	
H. Compare the different modes of disease transmission	C	
I. Explain what nosocomial infections are and how they are transmitted.	C, E, F	
J. Have an understanding of emerging diseases and their causes and be able to discuss the reason for their evolution	C, E, F, G	
K. Know the different types of epidemiology and understand the importance of case reporting	C, E, F, G	
XIII. Pathogenicity		
A. Be able to identify all portals of entry of the human body for	A, C	

pathogens and predict physiologically what enables entry.		
B. Understand virulence and how it is reported and measured	C	
C. Have an understanding of how bacterial pathogens penetrate host defenses and be able to discuss the effects on a molecular as well as an organelle level	C	
D. Analyze the damage done by pathogens to host cells and the direct damage done to the cell	C	
E. Be able to predict the viral mechanism that was used for evasion of a host and the effects on the host	C	
F. Distinguish between pathogenic properties of fungi, protozoa, heminths, and algae	C	
XIV. Immunology- Adaptive and Innate		
A. Evaluate the different areas of the first line of defense and be able to identify the normal microbiota and innate immunity	C	
B. Distinguish between second line of defense mechanisms (phagocytes, blood, inflammation, fever) when assessing an infection	C	

C. Evaluate the different kinds of antimicrobial substances available	A, C, E, F	
D. Differentiate between innate and adaptive immunity	C	
E. Explain the relationship between antigens and antibodies as a response of the immune system and discuss the four outcomes of an antigen-antibody reaction	C	
F. Discuss the specificity of the human body concerning the production of antibodies	C	
G. Evaluate the different types of T cells and other forms of cellular immunity and discuss their different functions	C	
H. Compare and contrast the different kinds of cytokines	C	
I. Make inferences on the types of adaptive immunity	A, C	
XV. Applications of Immunology		
A. Analyze how, physiologically, a vaccine is effective and discuss how they are used worldwide	A, C, E, F	
B. Distinguish between types of vaccines and describe	A, C, E, F	

how they use new technology and knowledge to be advantageous		
C. Evaluate from a historical as well as modern day perspective the development of new vaccines	A, C, E, F, G	
D. Evaluate the different types of diagnostic tests that are available and classify them for sensitivity and specificity	A, C, E	
E. Differentiate between the direct and indirect ELISA test	A, C, E	
XVI. Antimicrobial Drugs		
A. Analyze which microbes are used to produce antibiotics and explain why	A, C, E, F	
B. Classify antimicrobial drugs according to their mode of action	A, C, E	
C. Discuss how anti-fungal, viral, protozoan, and helminthic drugs are used and analyze their effectiveness	A, C, E	
D. Predict the effectiveness of chemotherapeutic agents by using knowledge of current drug resistance and antibiotic safety concerns	A, C, E, F	

XVII. Environmental Microbiology		
A. Analyze how microorganisms contribute to the earth's structure and function enabling survival of life	A, C, D, E, F, G	
B. Evaluate the importance of microorganisms in the soil and the role they play in the biogeochemical cycles	A, C, D, F	
C. Predict what effects on microbial life that domestic and industrial wastewater will have on lakes and streams given specific case studies	A, C, D, F	
D. Discuss and explain how marine aquatic microorganisms are an integral part of that ecosystem	A, C, D, F	
E. Evaluate from a public health perspective the role microbes play in water quality, both freshwater treatment and wastewater	A, C, D, F	
F. Predict the diseases that would occur if water quality was compromised	A, C, D, E, F, G	
XVIII. Food Microbiology		
A. Analyze how microbial control, either by support or suppression of growth, has changed the way	A, C, E, F, G	

humans live and survive		
B. Classify the different kinds of food preservation methods according to the types of spoilage (i.e., organisms controlled, types of food used on, etc.)	C, E	
C. Discuss, explain, and give examples of the beneficial activities performed by microorganisms on food production	C, E, F	
D. Synthesize a method to maximize the life cycle of yeast in order to make fermentation more efficient	A, C, E, F	
XIX. Industrial Microbiology		
A. Analyze how, on a large-scale commercially, products such as antibiotics, vaccines, enzymes, and hormones, can be manufactured by microbes	C, E, F	
B. Evaluate the different microbes and their functions in industrial chemicals and pharmaceuticals	A, C, E, F	
C. Discuss and explain the method used to convert biomass into an alternative fuel source	C, E, F	
D. Evaluate and present current	C, E, F	

methods and initiatives to produce alternate fuel sources		
E. Predict future use of microorganisms in industry	C, E, F	
XX. Laboratory Safety and Infection Control		
A. Distinguish between disinfection and sterile conditions and give examples of both methods of achievement	A, C, E, F	
B. Evaluate sterile techniques when handling microorganisms	A, C, E, F	
C. Explain and demonstrate the technique for developing a pure culture	A, C, E, F	
D. Decide which bacteria, fungi, parasite, or protist is present in a culture by performing diagnostic tests using the necessary techniques needed for handling and culturing these disease agents	A, C, E, F	
E. Utilize the MSDS book provided in the laboratory to develop a chemical safety plan	A, C, E, F	
F. Using case studies, analyze laboratory safety procedures	A, C, E, F	
G. Evaluate and explain the method used in the laboratory for biological waste disposal	A, C, E, F	

Suggested Labs/Activity Topics		
Laboratory Safety	A, C, E, F	1.1, 1.2, 1.3, 2.1, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 5.3, 6.1, 6.2, 6.3, 6.4
Microscope Use	A, C, E, F	1.1, 1.2, 1.3, 2.1, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 5.3, 6.1, 6.2, 6.3, 6.4
Preparation of Specimens	A, C, E, F	1.1, 1.2, 1.3, 2.1, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 5.3, 6.1, 6.2, 6.3, 6.4
Staining Bacteria	A, C, E, F	1.1, 1.2, 1.3, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 5.3, 6.1, 6.2, 6.3, 6.4
Cultivation of Bacteria and Fungi	A, C, E, F	1.1, 1.2, 1.3, 2.1, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 5.3, 6.1, 6.2, 6.3, 6.4
Microscopic Observation of Bacteria, Fungi, and Protozoa	A, C, E, F	1.1, 1.2, 1.3, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 5.3, 6.1, 6.2, 6.3, 6.4
Soil and Water Microbiology	A, C, E, F	1.1, 1.2, 1.3, 2.1, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 5.1, 5.2, 5.3, 6.1, 6.2, 6.3, 6.4
Biochemical Tests for the Identification of Bacteria	A, C, E, F	1.1, 1.2, 1.3, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 5.3, 6.1, 6.2, 6.3, 6.4
Fermentation Labs	A, C, E, F	1.1, 1.2, 1.3, 2.1, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6,

		4.7, 4.8, 5.3, 6.1, 6.2, 6.3, 6.4
Evaluating Antibacterial Chemical Agents	A, C, E, F	1.1, 1.2, 1.3, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 5.3, 6.1, 6.2, 6.3, 6.4
Microbial Pathogens	A, C, E, F	1.1, 1.2, 1.3, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 5.3, 6.1, 6.2, 6.3, 6.4
Parasitology	A, C, E, F	1.1, 1.2, 1.3, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 5.3, 6.1, 6.2, 6.3, 6.4
Responses to Infection	A, C, E, F	1.1, 1.2, 1.3, 2.1, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 5.3, 6.1, 6.2, 6.3, 6.4