SCIENCE DEPARTMENT HANDBOOK 2010

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Welcome to the Science Department at Mineral Area College.

Our mission is to serve the community and to offer students a quality, affordable education that will enable them to attain their career goals. To accomplish this never ending mission, our faculty are committed to providing a high quality, hands on, high technology education. The research focus of the department concerns environmental issues, including water quality.

This handbook contains some (certainly not all) of the responsibilities that we as faculty have. It also contains our department's policies. We hope that you find this book useful. Please bring any suggestions for additions or corrections to the attention of the department chair. This handbook is usually updated at the beginning of each semester.

FULL-TIME FACULTY MEMBERS RESPONSIBILTIES

Full-time faculty are required to:

- ♠ Be on campus Monday-Friday, even if you do not have a class.
- ♠ Schedule 5 hours worth of office hours each week. By the first day of classes, post your office hours on your office door AND give them to the Dean of Arts and Science.
- ♠ Turn in two copies of your course syllabi, which have been dated and initialed, to the Department Chair. Do this by the first day of classes.
- ♠ Attend the General Faculty meetings, Division meetings, Department meetings, Course meetings, and the meetings of the Standing Committee to which you have been assigned.
- ♠ Advise students. The Registrar assigns students to advisors based on the student's declared major. You may obtain a list of advisees from the Registrar.
- ♠ Participate in the Math/Science Fair and graduation.
- ♠ Drop students for non-attendance in accordance with school policy.
- ♠ Keep attendance records so that the last date of attendance can be determined.
- ♠ Turn in mid-term and final grades on-line using the grading function on MyMac.
- ♠ Turn in Performance Reports to the Dean of Arts and Science indicating which students are not doing well in your class. These reports are then sent to the students. Check the Operations Calendar for the due date.
- ♠ Check the prerequisites of the students taking the classes in your discipline. If a student does not meet the prerequisites, notify the Registrar's Office. They will do an Administrative Drop on that student.
- ♠ Assist adjunct science faculty with lab preparation when needed.
- ♠ Assist with the CARDS Freshman Orientation program by determining the classes these students should take based on test scores and majors and by advising these students.
- ♠ Fill out textbook order forms for their classes as well as for the adjuncts teaching classes on the Mineral Area College campus.

ADJUNCT FACULTY MEMBERS RESPONSIBILTIES

Adjunct Science faculty are required to:

- Be on campus when you have class. You are not required to have office hours. However, in order to maintain the high quality of education, it is suggested that you schedule 1-2 hours worth of office hours each week for each course. These should be clearly listed on your course syllabi as well as the location of your "office".
- Turn into the Department Chair two copies of your course syllabi that have been dated and initialed. Do this by the first day of classes.
- Drop students for non-attendance in accordance with school policy.
- Keep attendance records so that the last date of attendance can be determined
- Turn in grades to the Dean of Arts and Science at the end of each semester. Then during the next semester, sign the Grade Verifications Sheets, which are kept in books in the Student Services Office. Off-Campus adjuncts should check with their Off-Campus Coordinator for the location of the Grade Verifications Sheets.
- Turn in Performance Reports to the Dean of Arts and Science indicating which students are not doing well in your class. These reports are then sent to the students. Check the Operations Calendar for the due date.
- Attend meetings as directed by the department chair or course director.
- Use the textbooks and lab books chosen by the department.
- Use a course syllabus which follows the format and that indicates the course content as agreed to by the Department. As a guide, you should use a copy of an old syllabus which can be obtained from the Department Chair.
- Coordinate with a full-time faculty member concerning a common final and assessment.

Adjunct Science faculty are encouraged to:

- Attend General Faculty, Division, and Department meetings. You are expected to attend Course meetings. You will not be assigned to a Standing Committee.

Adjunct Science faculty are NOT to:

- Advise students.
- Teach Independent Study Courses.
- Order textbooks.

GENERAL INFORMATION:

- *You need a computer account.* Give the Department Chair your FULL NAME, your title, whether you are full or part-time, and your SOCIAL SECURITY NUMBER so that both access to the e-mail system and Jenzabar can be created. Full-time faculty have a computer in their office. Adjunct faculty share the computer in the adjunct faculty office. There is also the open computer lab in the technology building. If you need help logging on, accessing e-mail or MyMAC, or using any of the software including CyberEd, be sure to ask another department member or the HELP DESK, phone number extension 2137.

- *You need a parking hang-tag*. See Kathryn Neff, Fine Arts Building 104, x2378.

- *You need voice mail.* Start with Janet Miller of the Help Desk, Room T2, x2137. She will help you set up your voice mail.

- *You need keys.* See the Department Chair for the keys you need.

- *You need a form.* Most forms can be found by the mailroom or in the copy room. There seems to be a form for everything – travel, maintenance, print shop, audiovisual, absences, graduation, advisement, cars, leave time, direct deposit, etc. When in doubt --- ask.

- *You need to make copies.* There is one copy machine in the faculty office area. See the Department Chair for the copy code. Tests, handouts, etc should be sent to the print shop. There is a print shop form to be filled out which is then attached to your document. You can either hand deliver your document to the print shop, place it in the print shop's mail box, or send it to the print shop from your office computer. Generally you need to go to the print shop to pick up your copies.

- *You need audiovisual equipment.* Request it using the proper form and put it in Audio/Visual's (Ron Fadler's) mailbox.

- *You need something fixed.* Request it using the proper form. So that we don't have duplicate requests, the Maintenance Request form should go to the department chair who will forward it to General Services.

- *You need help with your computer.* Ask the HELP DESK. Phone number extension 2137.

- *You need to order supplies.* Each full-time faculty member has a budget. Submit all requisitions to the department chair for approval. You will need to include a sentence as to why you need what you are requesting. They are asking us to use the Purchase Order templet on EXCEL. If you want to spend more than $10.00 at the bookstore you will need a purchase order. You can call the bookstore to find out how much something will cost in advance. Adjuncts who need supplies of any kind should see their course director before purchasing anything, even so much as a gradebook. Off-campus faculty should see the Off-Campus Coordinator for the purchase of supplies, including any needed lab supplies. Please keep track of how much you spend. The cut-off date is usually the beginning of March. Once you have received your items, an invoice will appear in your mailbox. Check it over, make sure it is correct, initial, date, and copy the invoice for your records. The invoice then goes in the Dean's mailbox. You should also place in the Dean's box the receipt from the bookstore, make a copy of it first for your records.

SCIENCE LAB USUAGE REQUEST ---- ROOM SCHEDULING / USE POLICY

Because of safety concerns the use of the science labs by either adjunct faculty or non-science department faculty is restricted.

Any one wishing to use a science lab should contact the department chair.

In general the Zoology Lab, AS213, is off-limits because of the animals which are kept there. In general the Physics Lab, AS112, and the Instrumentation/Chemistry Lab, AS220, are off-limits because of the expensive equipment kept in these labs and the potential hazards related to the equipment in these rooms.

When the request to use a lab is granted, please provide the department chair with the following (1) a list of materials and equipment that will be used and (2) a brief description or a copy of the labs, activities, or demonstrations that will be conducted. This is to ensure that unused lab equipment will be secured and that proper safety and waste disposal are provided.

Please tell us if you will need use of gas or the computers by completely the table below:

	Yes	No
Teacher's Work Station		
Computers		
Gas		

ROOM:

PURPOSE:

DATES/TIMES:

TEACHER:

NUMBER OF STUDENTS:

KEY ARRANGEMENTS:

MATERIALS/EQUIPMENT NEEDED: Please let me know what you need so that we can have it out and ready to go for you. Thanks. Brian

MATERIALS or EQUIPMENT	Provided by Instructor	Provided by MAC	Number	Checked Out	Returned

SPECIAL NOTES:

- No food or drink in the lab.
- The lab is to be kept LOCKED when the instructor is not present.
- Please return all equipment to its proper place.
- Please leave us a note telling us if any of the equipment is/becomes broken and/or doesn't work.

RETURN A COMPLETED COPY OF THIS TO NANCY AS SOON AS POSSIBLE.

Thanks for your help. Have fun and be safe. Brian

KEY DISTRIBUTION POLICY

Faculty, whether full-time or adjunct, who are listed on the MAC Course Schedule to teach in a science lab will be given a Science Lab Key. The Science Storeroom Key is given only to full-time science faculty and to retired MAC science faculty who will be teaching for the department. Because adjunct faculty will not be given a key to the Science Storerooms, the full time science faculty may need to assist the adjunct faculty in preparing for labs. At the end of each semester, adjunct faculty who are not scheduled to teach in a science lab the next semester are to return their key to the department chair. *Please keep close eye on your keys, they should not be loaned out to other faculty or anyone else.*

Faculty, whether full-time or adjunct, who are not listed on the MAC Course Schedule to teach in a science lab, may need sporadic access to a lab. This would include for example (1) faculty for whom the department is storing materials or equipment, (2) faculty needing materials to do a classroom demonstration, (3) faculty needing a lab only a few times a semester for a special class or workshop. For security purposes such faculty will not be issued their own set of key. Such faculty may check out a lab key. See the department chair for details. So that all may have access to the labs when needed, the key should be checked out for only short periods of time and not overnight. The person checking out the key is responsible for the key and should not give the key to anyone else. Anyone needing a key overnight should make arrangements with the department chair.

Please note that only the LAB key may be checked out. Storeroom and cabinet keys are not checked out. If entrance into a storeroom or cabinet is required, special arrangements need to be made with the person responsible for that storeroom or cabinet.

MATERIAL / EQUIPMENT USE, STORAGE, RETRIVAL POLICY

The materials and equipment located in the various labs and storerooms are best used when shared by everyone. *Never use, move, or take **anything** from a science lab or storeroom without asking the faculty member in charge of that area*. Equipment, materials, and chemicals removed from a science lab should be checked out. Before any equipment, materials, or chemicals are used, read the instructions or labels carefully and check for initials to see who ordered the item. Please consult with the proper contact person listed below before using any piece of equipment, any material, or any chemical.

AS112 --- George Saum
AS116 --- Brian Scheidt
AS212 --- Rhonda Gamble
AS213 --- Nancy Petersen
AS215 --- Sharon Reeves
AS218/220 --- Margaret Williams/Nathan Calkins

RG means Rhonda Gamble
JG or SR means Sharon Reeves
MW means Margaret Williams
KS or PS means George Saum
NP means Nancy Petersen
NC means Nathan Calkins

The faculty member checking out the equipment, material, or chemical is responsible for its use. Please return equipment, materials, or chemicals to their proper cabinet, shelf, or cart. Any excess reagents or any substances generated during a lab must be placed in the proper containers when the lab is finished. Contact Mark Potratz, x2308, to make sure the proper containers are available. If something breaks, please tell us by taping a note to the cabinet/shelf/cart indicating what happened and what broke.

All chemicals should be initialed and dated by the faculty member who ordered the chemical. You should keep a copy of the MSDS for yourself and give a copy to Margaret Williams who keeps the chemical inventory and master MSDS file. Be sure to store chemical properly, ask Margaret Williams if you have questions.

The department often stores science equipment, materials, and chemicals for faculty that are non-science department members. When such equipment, materials, or chemicals need to be retrieved, the best procedure is to make arrangements with the appropriate contact person listed above. If the person is not available, a key to the lab can be obtained from the department chair. Please note that only the LAB key may be checked out. For security reasons, storeroom and cabinet keys are not checked out. If entrance into a storeroom or cabinet is required special arrangements need to be made with the person responsible for that storeroom or cabinet.

Removing equipment/materials from the main MINERAL AREA COLLEGE campus requires special permission from the department chair as well as others. Removal of equipment must not interfere with classes. An agreement covering the replacement of lost or stolen equipment must be in place.

EDUCATIONAL REQUIREMENTS FOR THE EMPLOYMENT OF ADJUNCTS ON OR OFF CAMPUS

The Science Department requires a Master's Degree in Science, or higher, in the field of study in which they will be teaching.

There is a clause in the Dual Credit Program Policy that states, "Dual credit teachers approved before the 1999 newly adopted CBHE guidelines are accepted without further proof of eligibility." The Science Department refers to this as the Grandfather Clause in the Dual Credit Program Policy.

CLASSES TAUGHT AS DUAL CREDIT CLASSES AT HIGH SCHOOLS

Several science classes are offered as dual credit courses through the local high schools.

The criteria for approval of such an arrangement is as follows:

- ♠ The department must approve the instructor and the course.
- ♠ The course outline needs to be very similar to the current syllabus for the class.
- ♠ The MAC course syllabus should be attached to any course outline given to students.
- ♠ The textbook used for the course should be the same textbook used at MAC.
- ♠ Enrollment in such classes should not adversely affect the enrollment of the class here at MAC.
- ♠ Each semester the instructors should be evaluated by a full-time department member.
- ♠ The instructors should attend Course Meetings as indicated by the Course Director.

COURSE MEETINGS

The purpose of Course Meetings is to ensure the consistency and quality of a course that is taught by several instructors. All faculty teaching a section of such a course, including adjunct and dual credit instructors, should anticipate attending these meetings which will be scheduled by the Course Director. A full-time science faculty member will be appointed as Course Director. The Course Director, among other duties, is responsible for ordering laboratory supplies and preparing, with faculty input, the common unit, midterm, or final exams. During these meetings course syllabi, course content, laboratories, homework, common course assessment techniques, and exams will be discussed. This is a time where teaching techniques can be shared and questions can be answered.

SCHEDULING OF CLASSES

Full time faculty will be given first choice in selecting class times. When two full time faculty members are teaching the same class, the senior faculty will be give preference on scheduling time.

Specialty classes will be taught by full time faculty unless extenuating circumstances require an adjunct to teach this class.

Additional telecourses classes may be added to the schedule only after the other sections of this course fill.

INDEPENDENT STUDY COURSES

Independent Study classes are to be approved by the department. The independent study course should use the same syllabus as does the regular class. A dated and initialed copy of the syllabus should be turned into the Dean and the department chair.

In general our department, for retention and quality control reasons, does not allow adjunct faculty to teach Independent Study classes, especially those which require a lab. In rare instances when approval is given because of extenuating circumstances, an independent study class offered by an adjunct will be closely monitored. This monitoring can include such items as:

- ♣ Limiting the enrollment of the independent study course to specific students.
- ♣ Specifying the textbooks and lab manuals to be used.
- ♣ Requiring that labs and field trips be clearly noted on the course syllabus. The dates and places where these events will occur should also be included on the syllabus.
- ♣ Requiring the student to submit typed reports to the department which include the purpose of the trip or lab, what was done, and what was learned.
- ♣ Requiring all exams be submitted to the department for approval prior to them being administered to the student. The student might be required to take the regular course exams, including the final exam.

SPECIAL NEEDS

If you or a student has special needs as addressed by the Americans with Disabilities Act and need any test or course materials provided in an alternative format, notify the Director of the Access Office, Lisa Leftridge. Reasonable efforts will be made to accommodate your special needs. The Access Office is located in AS103 extension 2152.

We have a portable laboratory bench designed for students in wheel chairs. It is kept in AS218.

FIELD TRIPS

The following is from the Dean of Students -- 2004: Students may be officially excused from classes for college activities, including athletic games, by the Dean of Students' Office for a maximum of the equivalent of one week of classes. That is, three Mon/Wed/Fri classes and/or two Tues/Thurs classes or one evening session. Additional absences for any reason such as illness, additional athletic games, etc, must be discussed between instructors and affected students.

To take a field trip, fill out a trip request and submit it along with a list of students to the department chair. If a college vehicle is needed, be sure to call Dave McClure, X 2110, before you fill out your trip request, to see if a vehicle is available.

DUTIES OF THE DEPARTMENT CHAIR

Each spring the full-time members of the science department select a department chair whose year-long term will begin the next fall. The person selected should expect to serve for three consecutive terms.

The duties of the department chair include, but are not limited to:

- Represent the Department where needed or required
- Coordinate the Math/Science Fair
- Sign purchase orders, travel requests, absences, textbook orders, other forms
- Submit course schedules and budget requests
- Attend curriculum committee meetings, department head meetings, other meetings as needed or required
- Take care of departmental correspondence
- Act as a liaison between science faculty and administration
- Make sure there are adequate advisors for the CARDS program
- Help select students for the Scholastic Scholarships
- Assign department members to dual credit evaluations
- Update the local teachers mailing list and e-mail list
- Help department members with mass mailings such as WYSE, UMR Career Night, Earth Day
- Update as needed the Department Web Site.
- Update as needed the Department Handbook and Department Brochures.
- Write the annual Department Assessment Report.
- Keep a file of our course syllabi.
- Keep a file of adjunct's resumes.
- Keep a file of potential adjuncts.
- Update the website directory each semester.

LIVE ANIMAL USE POLICY

The science department at Mineral Area College encourages students to learn about animals and plants and their respective environments. Living organisms are maintained in the life science labs to facilitate this learning process. The living organisms are adequately housed and have appropriate access to food and water dependent on the species.

The humane treatment of all laboratory housed life forms is monitored by the major instructor of each lab. The primary instructor of off campus sites is to be in charge of any living specimens that are maintained in their laboratory or classroom.

Safety is the main concern when maintaining microbiological life forms. All media that is used to grow microbes shall be appropriately sterilized and removed from the facility after use. Stock cultures shall be maintained in a locked cabinet and inaccessible for general student use.

SCIENCE DEPARTMENT POSITION STATEMENT ON ANIMAL DISSECTION

Mineral Area College Science Department used preserved animals for the purpose of dissection to provide the highest quality of instruction in life science courses. The use of dissection as a learning tool allows the student to recognize and appreciate the three dimensional structure of the animal body, the interconnections between organs and organ systems, and the uniqueness of the biological material. Anatomical models, interactive programs, and multimedia resources may enhance a students learning experience. These resources are not viewed as equivalent alternatives to whole animal dissection. Such programs often fail to completely depict the uniqueness of living organisms due to the inherent variability and unpredictable nature of biological responses.

Mineral Area College Science Department supports the use of biological specimens in science experiments. The provision of their use is in strict compliance with Federal Legislation and the guidelines of National Institutes of Health and the United States Department of Agriculture. This is to ensure that the use of animal dissections fulfills clearly defined educational objectives.

CHEMICAL USE POLICY – CHEMICAL SAFETY RULES – Updated August 2010

Students and faculty have a right to know the hazards associated with the substances they are using. This information can be found on the Material Data Safety Sheets that are kept in the lab. The first "experiment" in any lab using chemicals should be the safety lecture. A safety film should be shown and the Laboratory Safety Rules should be reviewed.

- You MUST wear approved safety goggles at all times during the laboratory period as required by Missouri State law. Approved safety goggles are those which will protect against both impacts and splashes. Approved safety goggles may be purchased at the bookstore.
- Contact lenses should not be worn in the laboratory, even under safety goggles. Chemical irritants may infuse under the lens and cause eye damage.
- Dress sensible for laboratory by wearing for example an old pair of jeans. The following apparel will not be worn in the laboratory: sandals or open-toed shoes, swimsuits, scarves, or any loose clothing that might become caught in your lab apparatus or that might catch on fire. It is strongly recommended that the following not be worn in the laboratory: shorts, capris, or mini-skirts. If you wear long hair, tie it up in such a way that you are in no danger of setting it on fire in the burner flames. LAB APRONS are to be worn while working in the laboratory. In order to protect your hands, GLOVES are to be worn when working in the laboratory with chemicals other than water. These gloves are meant to protect the student's hands from chemical exposure, they are not heat resistant, therefore caution must be exercised when working with hot objects and heat sources. Students dressed inappropriately for laboratory will not be allowed to work in the laboratory.
- No smoking, eating, or drinking in the laboratory because you might be ingesting poisonous materials.
- Never taste any chemicals in the laboratory. Never use mouth suction to fill a pipet.
- Smell a chemical only by gently fanning the vapor toward your nose. Work in a fume hood whenever noxious or irritating fumes are expected.
- Avoid bringing chemicals into contact with your skin; use a spatula or other sampling device. Use caution when handling hot containers; use tongs when handling them. Do not look into the top of hot containers. If you spill an undesirable chemical on your skin, or if you burn your fingers by picking up a hot object, run cold water over the affected area and tell your instructor.
- Know where the fire extinguisher, fire blanket, eye wash station, and safety shower are located and how to use them. Know where the nearest phone, fire alarm, and exit are located.
- Turn off your bunsen burner whenever you are not using it. Never allow the burner to operate unattended.
- Never work alone in the laboratory. Never perform unauthorized experiments. Act in a responsible manner at all times in the laboratory. Horseplay of any kind will result in immediate ejection from the laboratory.
- Never point the open end of a test tube at yourself or any other person while the contents are being heated or undergoing a reaction. Never heat a test tube only on the bottom of the tube.
- Never use chemicals without reading the labels on their containers. Do not waste chemicals. Measure carefully, take only what you need. Do not return excess chemicals to stock bottles.
- Always pour acids slowly into water while stirring constantly.
- Do not use flammable solvents with open flames in the laboratory.
- Never attempt to insert a glass tube or thermometer into a stopper without a lubricant such as glycerin. Protect your hand with a cloth.
- Keep your workspace clean and neat. Clean up any spills immediately.
- **Dispose of waste reagents as directed**. DO NOT pour hazardous materials down the drain. Never put insoluble materials, such as paper towels and matches, in the sink. Do NOT dispose of broken glass in the trashcan. Broken glass is disposed of in the container marked for broken glass.
- Be properly prepared to do the experiment. Read the experiment before coming to the laboratory.
- WASH YOUR HANDS before leaving the laboratory.
- Notify your instructor immediately of any fire, accident, or problem.

LIFE SCIENCE SAFETY POLICY

The following policy should be given to your students at the beginning of each semester:

The Life Science Laboratory experience is intended to expand your awareness of your course work through hands-on-activities. In order to make this training a successful process, please listen to the instructor on the proper procedures in handling laboratory equipment and specimens. When in doubt, ASK.

The following is a list of common safety tips:

- 1. Locate the safety equipment in your laboratory:

    --- Fire extinguisher
    --- Eye wash fountain
    --- Fire blanket
    --- Primary escape route
    --- Secondary escape route
    --- Fire alarm
    --- First aid supplies

- 2. Be able to perform the following activities:

    --- Move to the tornado shelter.
    --- Act appropriately in the event of an earthquake or fire.
    --- Keep your area neat during experiments. (Coats, book bags, and purses can cause people to trip.)
    --- Notify the instructor if there have been spills and get directions for cleaning.
    --- Notify the instructor of personal injury. Don't just leave the room without telling someone where you are going if you feel ill.
    --- To avoid contamination and injury be sure to clean and store all equipment assigned to you in the appropriate manner.
    --- Wash your hands before leaving a biological laboratory. In some classes (microbiology) it is also important to wash your hands before the laboratory.
    --- NO eating or drinking in the laboratory while experiments are conducted.
    --- Never leave a lit burner unattended.
    --- Know who to call in medical emergencies.
    --- Think ahead when setting up experiments, carrying equipment, working with electricity and hazardous chemicals. (Experience dictates that if you think "someone will probably knock that off if I leave this here" then someone will…. Move it before the accident can occur.)