Moberly Area Community College
Common Syllabus

PHY140 Soil Science

Current Term

Instructor: 
Office number: 
Office hours: 
Contact information: 
Classroom number: 
Class days and time: 

Catalog Description: PHY140 Soil Science (3-2-4) 
An introduction to the chemical, physical, and biological properties of soils; the origin, classification, and distribution of soils and their influence on people and food production; the management and conservation of soils; and the environmental impact of soil use.

Prerequisite/Co-requisite: none

Text(s): The text is an ebook included with the class. There is no print option available in the MACC bookstore.
Title: Soil Science and Management
Author: Plaster
Publisher: Cengage

Other Materials Required: none

Purpose of Course: To demonstrate an understanding of physical scientific principles and utilize computational skills in order to solve problems and make informed decisions.

Course Objectives: To successfully complete this course, students will:
• Appreciate the variety and complexity of soils.
• Describe the ways in which soils are an integral component of the terrestrial ecosystem.
• Use the technical terminology associated with the description and use of soils.
• Identify soil properties important to land use, environmental quality, plant growth and society/culture.
• Demonstrate skills required to make field observations and interpretations of soils for various uses.
• Retrieve and use information from a variety of sources for land use planning and soil management decisions.
• Explain the impact of land use and management decisions on agricultural productivity and sustainability, environmental and ecological health, and land degradation.
• Understand how soils can affect everyday decisions like how to develop a garden or where to build a house.
• The knowledge and understanding of good experimental methods.
• Develop good problem solving approaches and critical thinking techniques.
• The ability to relate these concepts to the world around them.

Course Content:
• The Importance of Soil.
• Soil Origin and Development.
• Soil Classification and Survey.
• Physical Properties of Soil.
• Life in the Soil.
• Organic Matter.
• Soil Water.
• Water Conservation.
• Drainage and Irrigation.
• Soil Fertility.
• Soil pH and Salinity.
• Plant Nutrition.
• Soil Sampling and Testing.
• Fertilizers.
• Organic Amendments.
• Tillage and Cropping Systems.
• Horticultural Uses of Soil.
• Soil Conservation.
• Urban Soil.
• Government Agencies and Programs.

Grading:

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<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>90 - 100%</td>
</tr>
<tr>
<td>B</td>
<td>80 - 89%</td>
</tr>
<tr>
<td>C</td>
<td>70 - 79%</td>
</tr>
<tr>
<td>D</td>
<td>60 - 69%</td>
</tr>
<tr>
<td>F</td>
<td>Below 60%</td>
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Expected Study Time Commitments: Students should expect to spend approximately 2 to 4 hours per week studying, reading, and working on assignments for each registered credit hour. For example, 6 to 12 study hours per week may be expected for a 3 credit hour class.

Assessment of Student Learning: Quantitative laboratories are used to complement classroom lecture. Grades will be based on tests, quizzes, lab reports, and final exam.

Tests/Exams (≥50%, 20 % labs, and up to 30% other—quizzes, homework, projects)
Description of Major Assignments(s)/Project(s): Per instructor’s policy

Schedule of Student Assignment/Activities: Instructors will identify a Student Assignment/Activities schedule. Instructors have the prerogative to construct the schedule by class periods, weeks, or an overview of topics to be covered.

Statement to Connect Course with General Education Outcomes: In compliance with MACC’s general education outcomes, the student who successfully completes this course will:

- **Higher Order Thinking:** Students will demonstrate the ability to distinguish among opinions, facts, and inferences; to identify underlying or implicit assumptions; to make informed judgments; to solve problems by applying evaluative standards; and to reflect upon and refine those problem-solving skills. This outcome involves creative thinking, critical thinking, and quantitative literacy.

- **Communication:** Students will demonstrate the ability to communicate effectively through oral, written, or digital channels using the English language or quantitative or other symbolic systems. Students should be able to write and speak with thoughtfulness, clarity, coherence, and persuasiveness; read and listen critically; and select channels appropriate to the audience and message.

- **Managing Information:** Students will demonstrate the ability to discern when there is a need for information; and to identify, locate, evaluate, and effectively and responsibly use and share that information for the problem at hand.

- **Valuing:** Students will demonstrate the ability to understand the moral and ethical values of a diverse society; and to appreciate the values of diversity, equity, and sustainability.

**College / Instructor Policies:**

**Academic Dishonesty:** MACC board policy is as follows: “Academic dishonesty by students damages institutional credibility and unfairly jeopardizes honest students; therefore, it will not be tolerated in any form.” Forms of academic dishonesty include but are not limited to the following: violations of copyright law, plagiarism, fabrication, cheating, collusion, and other academic misconduct. Incidents of dishonesty regarding assignments, examinations, classroom/laboratory activities, and/or the submission of misleading or false information to the College will be treated seriously. The procedure for handling academic dishonesty is outlined in the Student Handbook (Policy Handbook M.010). In cases of alleged academic dishonesty, the burden of proof is on the student, not on the instructor.

**Attendance Policy:** Students are expected to attend all class sessions for which they are enrolled. The College reserves the right to drop or withdraw students from courses due to lack of attendance.

Students need to be aware that dropping/being dropped from a course and their last date of attendance in the course may impact their financial aid.

MACC faculty are required to track attendance and report lack of attendance. An instructor must complete the appropriate steps to drop a student within one week following the student’s violation of the attendance policy. Additionally, a student’s attendance rate will be calculated based upon the
first day the academic session begins (not the student’s date of enrollment in the course). If a student does not attend a course as defined below, the student will be dropped as “Never Attended.”

**Term Length Drop Calculations**

<table>
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<tr>
<th>Term Length</th>
<th>Drop Criteria</th>
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<tr>
<td>16-week:</td>
<td>Any student who misses two (2) consecutive weeks of class will be dropped from the course by the instructor unless acceptable justification is provided by the student and the student still has the opportunity to be successful in the course.</td>
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<tr>
<td>8-week:</td>
<td>Any student who misses one (1) consecutive week of class will be dropped from the course by the instructor unless acceptable justification is provided by the student and the student still has the opportunity to be successful in the course.</td>
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<tr>
<td>4-week:</td>
<td>Any student who misses two (2) consecutive days of class will be dropped from the course by the instructor unless acceptable justification is provided by the student and the student still has the opportunity to be successful in the course.</td>
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<tr>
<td>Intersession:</td>
<td>Any student who misses one (1) day of class will be dropped from the course by the instructor unless acceptable justification is provided by the student and the student still has the opportunity to be successful in the course.</td>
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Acceptable justification may include, but is not limited to, family emergencies, illness or injury, college-approved co-curricular and extra-curricular activities, and religious holidays.

**Definition of Course Attendance**

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<th>Course Type</th>
<th>Attendance Description</th>
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<tr>
<td>In Seat Course</td>
<td>Physically attending scheduled, face-to-face, class meetings</td>
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<tr>
<td>Virtual Course</td>
<td>Being present, via appropriate platform, for scheduled class meetings/activities</td>
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| Hybrid Course        | Physically attending scheduled, face-to-face, class meetings and active participation in the online portion of the course which may include any or all of the following:  
  - Completion of quizzes or exams during class meetings and online  
  - Submission of assignments during class meetings and online  
  - Participation in discussions during class meetings and online |
| Online Course        | Active participation in an online course includes the following:  
  - Completion of quizzes or exams  
  - Submission of assignments  
  - Participation in threaded discussions |
Simply logging into the Learning Management System (Canvas) and/or accessing the course and course related material does not constitute active participation for the online component of hybrid courses or for online courses. (*Policy Handbook*, I.090 & M.095)

Attendance at all classes and laboratories is mandatory. Roll will be taken.

**Lab Conduct:** Students must agree to use safe conduct while in laboratory and obey all safety regulations. This includes the use of eye protection at the very minimum. *Failure to comply with all safety procedures / regulations will result in expulsion from the lab.* Safety glasses are available in the bookstore or on loan, during lab session, from lab stock.

**Tardiness:** Per instructor’s policy

**Make-up or late work:** Per instructor’s policy

**Extra-credit work:** Per instructor’s policy

**Student Email:** MACC Mail is the official student email system at MACC. Official college communication is sent via this email system. Students are responsible for checking their MACC Mail account regularly. Students may also receive notifications and reminders from MACC through the online learning platform. However, students should remain aware that the online learning platform messaging system and MACC Mail (student email) system are two separate systems.

**ADA Statement:** Students who have disabilities that qualify under the Americans with Disabilities Act may register for assistance through the Office of Access and ADA Services. Students are invited to contact the Access Office to confidentially discuss disability information, academic accommodations, appropriate documentation and procedures. For more information, please call either the Moberly office at (660) 263-4100 x11240 or the Columbia office at (573) 234-1067 x12120, or visit our web page at [http://www.macc.edu/index.php/services/access-office](http://www.macc.edu/index.php/services/access-office).

**Title IX Statement:** MACC maintains a strict policy prohibiting sexual misconduct in any form, including sexual harassment, sexual discrimination, and sexual violence. All MACC employees, including faculty members, are considered mandated reporters of sexual misconduct and as such are expected to contact the Title IX Coordinator when they become aware, in conversation or in writing, of an incident of sexual misconduct. For more information on this policy or to learn about support resources, please see [http://www.macc.edu/sexual-misconduct-policy](http://www.macc.edu/sexual-misconduct-policy) (links to an external site) or contact Ms. Cheryl Lybarger, MACC’s Title IX Coordinator, at 660-263-4110, ext. 11369 or CherylLybarger@macc.edu.