Marshall University Syllabus
College of Science

Course

PS.325, Development of Scientific Thought

Course Description

An introduction to the history and nature of science emphasizing the logic of scientific reasoning and progress with social and historical influences. Includes lab.

Credits
4 Credit Hours, undergraduate Natural Science, Normal Grading Mode

Prerequisites
12 Hours of Natural Science with minimum grade "C"

Year, Term, Section, CRN

2023 Fall – section 101 [CRN 3371]

Class Meeting Days/Times/Location

M_W__ 4:00pm – 6:15pm f2f in Sci.259 … sometimes moving to Sci.179

Academic Calendar
first regular class meeting M Aug.21
drop/add ends F Aug.25
Labor Day Holiday M Sep.04 – no class
withdrawals end F Nov.17
Thanksgiving Break M Nov.20 – F Nov.24
last regular class meeting W Nov.29
Final Exam M Dec.04, 4 – 6pm

Instructor

Curt W. Foltz, PhD.

Contact Information
- Office: Science Building room 159
- 159 Office Hrs: M_W__ 12-13 & 14^{30}-15^{30} ; _T_R_ 11-12^{30} ; __R_ 14-15^{30} ; also by chance & by appointment
  Herd Hours in Sci.103 ____F 12-15(+?)
- Office Phone: (304) 696-2519
- Marshall Email: foltzc@marshall.edu

Health and Safety Information

All members of the Marshall University community are expected to always observe health and safety protocols. This includes general health and safety protocols as well as specific protocols that might emerge in response to community and campus health conditions.

Required and/or Recommended Texts and Materials

Required Texts and Materials

Making Modern Science 1st edition by Bowler & Morus © 2005 U.Chicago Press
this text will form the core outline for our history lectures

Science and Its Ways of Knowing by Hatton & Plouffe © 1977 Prentice-Hall
we'll read a few essays from this, starting after a few weeks

email access : I will use your marshall email address for official communications
emails sent from another account might be treated as spam by by computer

web browser able to display html & Wikipedia files, to search for explanations
course home page is www.science.marshall.edu/foltzc/325_23f.htm

attendance in each class, ready to participate with pencil & paper
study time outside class, ≥6 effective hours/week to do homework & webwork

Recommended/Optional Texts and Materials

computer able to write & edit PowerPoint, html, or Prezzi presentations

Course Student Learning Outcomes

Course student learning outcomes **Students will:**	**How students will practice each outcome**	**How student achievement will be assessed**
describe discoveries in Science & Technology	class discussion lecture quizzes	Exams & Presentations
explain why and how some ideas were rejected/accepted/ignored	class discussion lecture quizzes	Exams & Presentations
illustrate the interplay between science & technology	class discussion lecture quizzes	Exams & Presentations
place discoveries in context re: contemporary social structure	class discussion lecture quizzes	Exams & Presentations
discern science & technology from pseudoscience & speculation	class discussion lecture quizzes	Exams & Presentations
distinguish Law from Model, Theory from Principle, and Discovery from Inference	class discussion lecture quizzes	Exams & Presentations
critique curriculum content & its organization	class discussion lecture quizzes	Exams & Presentations
develop & implement a classroom experiment and a demonstration	class discussion	class survey

Course Requirements/Due Dates

Lecture Quiz roughly every class meeting
Midterm Exam (take-home) due approx. Oct.16
Presentation & Lab dates vary by student
Term Paper due Finals week

Grading & Evaluation

20 % - Discussion Leader for 2 chapters, including the Quiz (and its key) for those chapters.
10 % - Lab Experiment/Demo "instruction manual" (age-appropriate), for the class to field-test.
10 % - Chapter Quizzes; few questions each, but with a range of answer type & profundity level.
30% - Midterm Exam + Final Exam, mostly essay answers, ½ science content & ½ social issues
20 % - Participation: discussion, activity-doing, critique Quizzes, critique Presentations.
10 % - Term Paper, due Finals week

Letter grade boundaries will be: 100% > A > 90% > B > 80% > C > 70% > D > 60% > F > 0%

Attendance/Participation Policy

Attendance at all class meetings is expected, with cordial participation in each.
Students are expected to have read each chapter before it is considered in class.
Each student will guide the class discussion/activity for two (2) chapters' topics,
and prepare & administer an assessment (quiz) for those chapters.
Also, students will develop & implement a classroom experiment or demonstration, relevant to a grade level and subject matter that you intend to be teaching soon.

This course depends on us all being candid yet civil, as we will discuss deep ideas,
and some ideas might be considered controversial.

Univrsity policies (below) allow University Excused Absences for a variety of Personal Health issues and Safety issues related to Inclement Weather, etc.

University Policies

By enrolling in this course, you agree to the University Policies. Please read the full text of each policy (listed below) by going to MU Academic Affairs: University Policies. (URL: https://www.marshall.edu/academic-affairs/policies/)

- Academic Dishonesty Policy
- Academic Dismissal Policy
- Academic Forgiveness Policy
- Academic Probation and Suspension Policy
- Affirmative Action Policy
- Pre-Finals Week Policy
- D/F Repeat Rule
- Excused Absence Policy for Undergraduates
- Inclement Weather Policy
- Sexual Harassment Policy- Title IX prohibits the harassment of students based on sex, which includes pregnancy, childbirth, and related conditions. This includes that students will not be penalized for taking medically necessary leave related to pregnancy, childbirth, or related conditions. Marshall's Title IX Office may be contacted at TitleIX@marshall.edu
- Students with Disabilities (Policies and Procedures)
- University Computing Services Acceptable Use Policy

Course Schedule

week of	Monday	Wednesday	Lab
Aug.21	Pre-Historic Technology	Mediterranean & Near East	weighing pennies
Aug,28	India	China	
Sep.04	Labor Day - no class	Americas	
Sep.11	Ch.1 Greek Philosophy	Middle East	
Sep.18	Renaissance	Ch.2 Scientific Revolution	
Sep.25	Ch.3 Chemical Revolution	Ch.4	
Oct.02	Ch.5	Ch.6	
Oct.09	Ch.7		
Oct.16	Ch.8	Ch.9	
Oct.23	Ch.10	Modern Geology	
Oct.30	Ch.11	Ch.12	
Nov.06	Modern Biology	Modern Chemistry	
Nov.13	Modern Technology	Ch.13	
Nov.20	Thanksgiving Break	No class	
Nov.27			