

# First-Year Experience (FYE) 101: STEM Fall 2018

## CLASS WEBSITE:

D2L (<http://d2l.wcupa.edu>) is used to post announcements, grades, and *PowerPoint* lectures.

## BIBLIOGRAPHY:

- Angier, Natalie. *The Canon*. Mariner Books, 2007. ISBN 13: 978-0547053462.
- D'Angelo, John. *Ethics in Science: Ethical Misconduct in Scientific Research*, 2012. ISBN 13: 978-1439840863
- Penrose, Ann and Steven Katz. *Writing in the Sciences*, 3<sup>rd</sup> Ed. Allyn & Bacon, Inc., 2010. ISBN 13: 978-0205616718
- Wise Bauer, S. and W. W. Norton. *The Story of Western Science: From the Writings of Aristotle to the Big Bang Theory*, 2015. ISBN 13: 978-0393243260.
- Wooton, Taylor, Schmoo & Resnick, and Stewart, Jr. *TBD*.

## COURSE OVERVIEW & STUDENT LEARNING OUTCOMES:

FYE101: STEM is a course designed to give first-year students the basic tools they need to understand the nature of scientific knowledge, ethical issues in science, and scientific writing. We will discuss the experimental and observational foundations of science the role of theory in science experimental uncertainties, the interpretation of scientific results the integrity of scientific data, the peer review process, writing abstracts, and avoiding plagiarism.

## LINK TO GENERAL EDUCATION LEARNING OUTCOMES (SLOs):

The outcomes in FYE101: STEM link to WCU's General Education SLOs in the following ways.

## FORMAT:

## COURSE EVALUATION:

≥ 93	A		80 – 82	B-		67 – 69	D+
90 – 92	A-		77 – 79	C+		63 – 67	D
87 – 89	B+		73 – 76	C		60 – 62	D-
83 – 86	B		70 – 72	C-		≤ 59	F

## POLICY ON LATE ASSIGNMENTS:

Sufficient notice will be given as to the due date of assignments. Assignments will be accepted up to 1 week after the due date, with a late penalty of 50% deducted. No assignment will be accepted for credit beyond 1 week after the due date.

## POLICY ON ABSENCES:

Your attendance here is important to your education.

## POLICY ON CLASSROOM BEHAVIOR:

Persistent and/or severe cases of disruptive classroom behavior will be brought to the Judicial Committee. Please let me know if classroom talking has reached an unacceptable level.

## **STATEMENT ON ACADEMIC DISHONESTY:**

For questions regarding Academic Dishonesty, the No-Grade Policy, Sexual Harassment, or the Student Code of Conduct, students are encouraged to refer to their major department's handbook, the Undergraduate/Graduate Course Catalogue, the Ram's Eye View, or the University Web Site. Please understand that improper conduct in any of these areas may result in immediate ejection from the class.

## **STUDENT ACCOMMODATIONS:**

If you have a disability that requires accommodations under the Americans with Disabilities Act (ADA), please present your letter of accommodations and meet with me as soon as possible so that I can support your success in an informed manner. Accommodations cannot be granted retroactively. If you would like to know more about West Chester University's Services for Students with Disabilities(OSSD), please contact the OSSD which is located at 223 Lawrence Center. The OSSD hours of Operation are Monday – Friday 8:30 a.m. – 4:30 p.m. Their phone number is 610-436-2564, their fax number is 610-436-2600, their email address is [ossd@wcupa.edu](mailto:ossd@wcupa.edu), and their website is at [www.wcupa.edu/ussss/ossd](http://www.wcupa.edu/ussss/ossd).

## **REPORTING INCIDENTS OF SEXUAL VIOLENCE**

West Chester University and its faculty are committed to assuring a safe and productive educational environment for all students. In order to meet this commitment and to comply with Title IX of the Education Amendments of 1972 and guidance from the Office for Civil Rights, the University requires faculty members to report incidents of sexual violence shared by students to the University's Title IX Coordinator, Ms. Lynn Klingensmith. The only exceptions to the faculty member's reporting obligation are when incidents of sexual violence are communicated by a student during a classroom discussion, in a writing assignment for a class, or as part of a University-approved research project. Faculty members are obligated to report sexual violence or any other abuse of a student who was, or is, a child (a person under 18 years of age) when the abuse allegedly occurred to the person designated in the University protection of minors policy. Information regarding the reporting of sexual violence and the resources that are available to victims of sexual violence is set forth at the webpage for the Office of Social Equity at <http://www.wcupa.edu/admin/social.equity/>.

## **COURSE OUTLINE:**

WEEK	TOPIC ( <i><b>Bolded topics are STEM-specific</b></i> )	REFERENCE
Week 1	Course Introduction and the Liberal Arts Tradition at WCU	
Week 2	University Policies and Campus Life	
Week 3	The General Education Curriculum at WCU and the E-Portfolio	
Week 4	<b>Understanding the STEM Curriculum History of STEM, including Obstacles and Diversity</b>	<b>Wise Bauer &amp; Norton?</b>
Week 5	How Humans Learn/Think? (Part 1) Strengths-Based Learning and Alignment of Professional Goals	
Week 6	How Humans Learn/Think? (Part 2) Understanding the Learning Process: Biological, Social, Cognitive Factors	
Week 7	<b>How Scientists Learn/Think? Scientific Method / Thinking / Critical Thinking</b>	<b>Angier, pp. 19-46 Wise Bauer, Ch. 8-9 Wootton, Ch. 8</b>
Week 8	<b>Laws vs. Theories / Experiments / Research Methods</b>	<b>Wootton, Ch. 7-10 Wise Bauer, Chs. 3, 7-9, 14-17</b>
Week 9	<b>Data / Observations / Inferences / Statistical Significance</b>	<b>[MAT reference]</b>
Week 10	<b>Technology and Engineering Components</b>	<b>[CSC and MAT references]</b>
Week 11	<b>CASE STUDY -- Integrating STEM components to solve a real-world problem (e.g., climate change, disease spread)</b>	<b>[Needs to be designed] Taylor Ch. 3-4</b>
Week 12	<b>Ethics, including Plagiarism</b>	<b>D'Angelo, Ch. 1, 7-8</b>
Week 13	<b>DELIVERABLE (Part 1) -- based on student work on CASE STUDY (integrates peer-review, ethics, scientific thinking, evidence based, facts and use of University facilities)</b>	<b>Schmoo &amp; Resnick, Ch. 7 D'Angelo, Ch. 3</b>
Week 14	<b>DELIVERABLE (Part 2) - based on student work on CASE STUDY (integrates peer-review, ethics, scientific thinking, evidence based, facts and use of University facilities)</b>	<b>Penrose &amp; Katz, Ch. 4 Stewart, Jr. Ch. 3</b>
Week 15	Academic Success at WCU: Factors that Impact Student Success	