What does it mean to have a life in science? We will look at how the answers to this question have varied across time and place by taking a close-up look directly at examples of scientists’ stories through their biographies – but we’ll also think of “lives in science” from a multi-dimensional perspective, in which we trace how scientific knowledge, scientific practices, and the influence of scientists casts a wide net in which many different people can be said to have “lives in science.”

In this semester we will see that “lives in science” can mean seeing scientific stereotypes challenged in a biography of Isaac Newton that brings his work as an alchemist into view . . . or by seeing the very idea of a scientific biography challenged when it’s a an artistic visual experiment in which drawings are as important as words, or as a play performed on a stage, or as a documentary that makes visuals and music more prominent than a narrator’s voice . . . It can mean following fictional scientists (or real scientists, fictionalized) in Hollywood films, or in stories from the early U.S. in which boys & girls are shown learning science as they play . . . or in seeing Charles Darwin’s life in modern-day picture books. It can mean finding women who were “lost” to science and technology although they were hidden in plain sight. . . it can mean taking account of the lives of individuals who come into contact with medical science, as for those born deaf in the last two centuries. . . It can even mean studying the scientific career of a chimpanzee. Through reading, films, plays, discussions, and short writing pieces we’ll explore these topics and more across the semester, ending with your selection of an aspect of the semester’s work to pair up with a topic of your choice for a final project. The final project can be a final essay, or a website, or a scene from a play, or a short film, or another way in which you bring your ideas to bear on the theme of “lives in science.”

Books
James Gleick, Isaac Newton (Vintage, 2003)
Jacob Abbott, Rollo’s Experiments, illustrated edition (Dodo Pr, 2008/1839)
   or download as free e-book http://www.manybooks.net/titles/abbottjac2499324993.html
Oliver Sacks, Seeing Voices (Vintage, 1990)
Elizabeth Hess, Nim Chimpsky: The Chimp Who Would Be Human (Bantam, 2008)
Schedule for Assignments

1) Four take-home essays on *Isaac Newton, Seeing Voices, Radioactive,* and *Nim Chimpsky* (4–5 pages, approx. 1000–1500 words) — due weeks 5, 8, 12, and 14 | | the first two are 10% each, and the second two are 15% each, for a total of 50%

2) 10 mini-reflection exercises (in-class and out-of-class), graded s/u (if they all receive a grade of satisfactory, they receive full credit) | | 2 points each: 20% possible

3) Participation Grade: Coming to class prepared, contributing to discussions, being a solid group member (5%)

4) Final Project. Due at the Finals Time for this class, Thursday May 10th 8:00-10:00 a.m. | 25%.

Rules of the Road

**Attendance:** Attendance is required. Four unexcused absences are allowed; if this number is exceeded the course grade will be lowered by one letter grade. Students are expected to use the allowed unexcused absences for an illness or injury not serious enough to receive medical attention, or for personal or family considerations. Three tardies equals one absence.

**Electronic Devices:** During classtime, all external communication devices should be turned off. Computers are to be used for note-taking only; if used for any other purpose this privilege will be revoked.

**Academic Misconduct:** Cheating will not be tolerated. Cheating includes, but is not limited to, copying the work of another student, using the written work of another author without attribution, or any conduct that seeks to compromise the evaluation process. Such conduct will result in an automatic F on that assignment and the student can be referred to the Dean for disciplinary action. We will discuss the academic integrity requirements in class together. For reference, see the “Student’s Guide to Academic Integrity” on the Provost’s website at: [http://www.ou.edu/provost/integrity/](http://www.ou.edu/provost/integrity/)

**Due Dates:** Assignments will not be accepted if turned in late.

**Religious Holidays:** It is the policy of the University to excuse the absences of students that result from religious observances and to provide without penalty for the rescheduling of examinations and additional required class work that may fall on religious holidays. Please see me in advance.

**Students with Disabilities:** The University of Oklahoma is committed to providing reasonable accommodation for all students with disabilities. Students with disabilities who require accommodations in this course are requested to speak with the professor as early in the semester as possible. Students with disabilities must be registered with the Office of Disability Services prior to receiving accommodation in this course. The Office of Disability Services is located in Goddard Health Center, Suite 166, phone 405.325.3852 or TDD only 405.325.1173.

**Grading Scale:** The letter grades for this course conform to a 4 point scale, as follows:

4.0-3.5 = A (A=4.0, A- = 3.7, A-/B+=3.5 )
3.49-2.5 = B (B+ = 3.3, B = 3.0, B- = 2.7, B-/C+=2.5 )
2.49-1.5 = C (C+ = 2.3, C = 2.0, C- = 1.7, C-/D+=1.5 )
1.49-0.5 = D (D+ = 1.3, D= 1.0, D- = 0.7 )
0.5 and below = F
Schedule of Topics and Weekly Reading

Week 1  Introduction: What are Lives in Science?

tu 1/17  Introduction / Course Logistics / Examples
th 1/19  Lives in Science: What Do We Know?

this week’s reading for next week’s classes
Gleick, Isaac Newton (pp. 3-89)

Week 2  Literary Conventions and Lives in Science

(Monday, 1/23: 1st mini-reflection exercise due for posting at the d2l bulletin board by 10 pm; then read your group members’ essays in preparation for the in-class exercise on 1/26)
tu 1/24  Scientific Iconography through Biography: Knowing Newton
th 1/26  Others’ Lives in Science: Collective Biography as History

this week’s reading for next week’s classes
Gleick, Isaac Newton (pp. 90-155)
Freeman Dyson, “A New Newton,” in The Scientist as Rebel (NYRB, 2006) / handout
James Gleick, “Isaac Newton’s Gravity: How a Major New Exhibition Gets the Scientist Wrong”
Slate Magazine, October 2004
www.slate.com/articles/arts/culturebox/2004/10/isaac_newtons_gravity.html

Week 3  History of Science Conventions and Lives in Science

tu 1/31  Assessing a Life: Newton as First of the Moderns or Last of the Magicians?

th 2/2  Assessing a Life: The “Great Man of Science” Genre
(first take-home essay questions passed out)

this week’s reading for next week’s classes
Gleick, Isaac Newton (pp. 156-191)

Week 4  Science as Collective Biography

tu 2/7  Enlightened Scientific Lives: The 18th-century “Republic of Letters” Community

th 2/9  Blending Fact & Fiction: Real Words, Imagined Pasts and Biographical Truths: Learning from Mme Lumière

this week’s reading for next week’s classes
Abbott, Rollo’s Experiments (first half)

Week 5  “Lives in Science” from the Outside In

tu 2/14  Lives in Science: Non-Elites and the Reception of Scientific Knowledge
(first take-home essay due)

th 2/16  Children’s Lives in Science: 19thc Ideas

this week’s reading for next week’s classes
20th/21st-century Picture Book on Darwin (passed out)
Abbott, Rollo’s Experiments (second half)
<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Reading/Notes</th>
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<tbody>
<tr>
<td>Week 6</td>
<td><strong>Lives in Science: Children’s Literature</strong></td>
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<td>tu 2/21</td>
<td>Rollo &amp; Friends &amp; Family and the Children’s Republic of Science in the Early U.S.</td>
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<td>th 2/23</td>
<td>Encountering Darwin as a Child: Picture Books Discussion</td>
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<td><strong>this week’s reading for next week’s classes</strong></td>
<td>Sacks, <em>Seeing Voices</em> (Preface, pp. 3-66 – and see the notes in the back)</td>
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<td>Week 7</td>
<td><strong>Lives in Science: Children and Scientific Experiments</strong></td>
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<td>tu 2/28</td>
<td>Children, Adults, &amp; Medical Science: Experts and Deaf Communication</td>
<td>(second take-home essay questions passed out)</td>
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<td>th 3/1</td>
<td>Children as Subjects of Scientific Research: <em>Secret of the Wild Child</em></td>
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<td><strong>this week’s reading for next week’s classes</strong></td>
<td>Sacks, <em>Seeing Voices</em> (pp. 67-130 – and see the notes in the back)</td>
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<td>Week 8</td>
<td><strong>Being Instructed on Knowing Our Place in the World of Modern Science</strong></td>
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<td>tu 3/6</td>
<td>Surrounded by Science: Using, Explaining, and Promoting Science in the Mundane World</td>
<td>(second take-home essay due)</td>
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<td>th 3/8</td>
<td>The Textbook Version of Scientific Lives</td>
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<td><strong>this week’s reading for next week’s classes</strong></td>
<td>Redniss, <em>Radioactive</em> (chapters 1-4)</td>
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<td>Week 9</td>
<td><strong>Modern Lives in Science: Biographies of Professional Lives</strong></td>
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<td>tu 3/13</td>
<td>Biography of the Curies, Biography of Modern Science: Discussion</td>
<td>(third take-home essay questions passed out)</td>
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<td>th 3/15</td>
<td>Picture Books for Grown-Ups: Experimenting with Print Biographies</td>
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<td><strong>this week’s reading for next week’s classes</strong></td>
<td>Redniss, <em>Radioactive</em> (chapters 5-9)</td>
<td>wikipedia: entries for Marie Curie and Pierre Curie</td>
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<td>Week 10</td>
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<td>tu 3/20</td>
<td><strong>no class – spring break</strong></td>
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<td>th 3/22</td>
<td><strong>no class – spring break</strong></td>
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<td>Week 11</td>
<td><strong>Portraying Women’s Lives in Science: The Role of Gendered Norms</strong></td>
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<td>tu 3/27</td>
<td>Women’s Lives in Science: Marie Curie as a “Great Man of Science”?</td>
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<td><strong>this week’s reading for next week’s classes</strong></td>
<td>articles on scientific women’s lives (e-reserve)</td>
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Week 12     Fitting Women’s Lives into the Historical Record

tu 4/3     Hidden Biographies: Top Secret Rosies: The Female “Computers” of World War II
(third take-home essay questions due)

th 4/5     Public Relations and 20thc Heroic Biography: The Mercury 7 and the Mercury 13

this week’s reading for next week’s classes
articles on the Mercury Program (e-reserve)
Hess, Nim Chimpsky (Prologue, Introduction, and Chapter 1)

Week 13     What Does a 21st-century Portrayal of Women’s Pathways Look Like?

tu 4/10    Mercury 13er Jerrie Cobb’s Story on the Stage: Promised the Moon
(fourth take-home questions passed out)

th 4/12    The Challenges of Women’s Biographies of Science

this week’s reading for next week’s classes
Hess, Nim Chimpsky (chapters 2-6)

Week 14     The Secret Lives of Non-Humans: Scientific Encounters

tu 4/17    Experimenting across the Species Divide

th 4/19    Being Understood across the Species Divide

this week’s reading for next week’s classes
Hess, Nim Chimpsky (Chapters 7-11; chapters 12-13 optional)

Week 15     Boundary-Crossings and Lives in Science

tu 4/24    Giving Amateurs the Last Word: Seeing in the Dark
(fourth take-home essay questions due)


Week 16     Conclusions

tu 5/1     Round-Robin Presentations of Projects-in-Progress

th 5/3     Final Project Consultations (optional)

Final Project Due at the Finals Time for this class, Thursday May 10th 8:00 a.m. - 10:00 a.m., in adams 104