



**NYU**

**Tandon School of Engineering**

Culture, Technology and Society | Science, Technology & Society

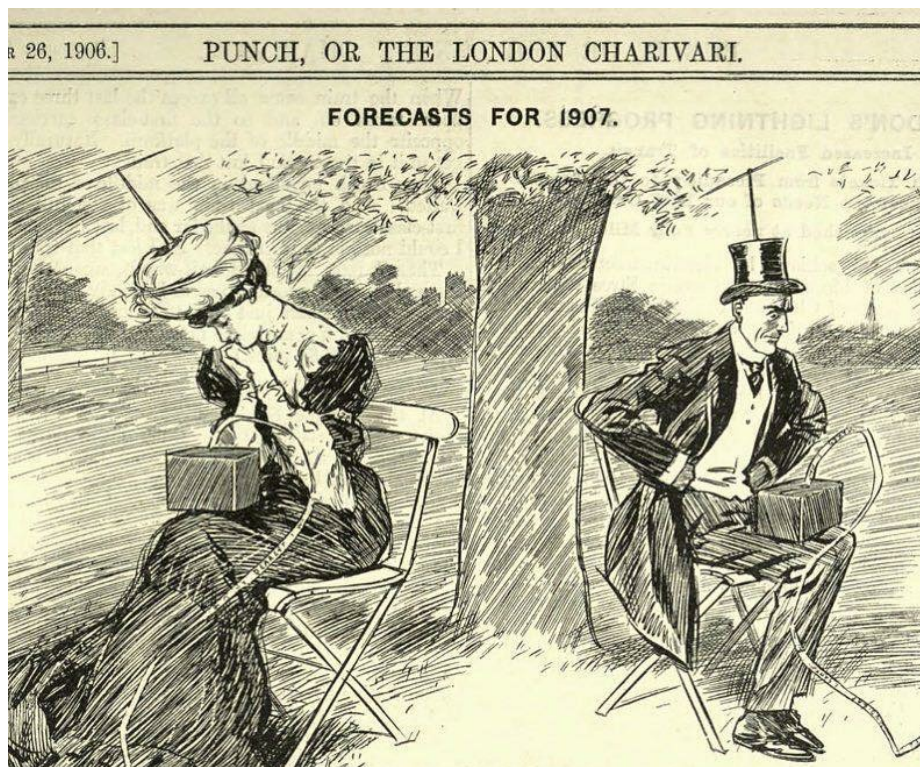
## STS-UY 2284 Feminist Theory: Science, Technology, Engineering, and Math (Intro to FSTEM)

Fall 2020 • Tuesdays & Thursdays 2:00pm-3:50pm

Course Blog: <https://wp.nyu.edu/tandonschoolofengineering-fall2020introfstem/>

Zoom room: 550-206-0844; <https://nyu.zoom.us/j/5502060844>

Discord (group discussion): <https://discord.gg/4YAdDBu>



This course will introduce feminist theory as a foundational methodology for critically investigating the fields of STEM. Feminist theory is not a political ideology nor an analytic framework limited to “women’s issues,” but an important way of asking questions about how hierarchies of power including gender, race, class, and disability, relate to the funding, research directions, and accessibility of science, technology, and engineering. While thinking through how STEM conforms to and creates social systems of difference, students in this course will learn how to apply feminist theory to contemporary case studies, examining issues of practice, ethics, social justice, and inequality in STEM.

For Fall 2020, this course is organized as a tutorial, with one-hour weekly online meetings between small groups of students and the professor to discuss the readings, and weekly student sessions to discuss and respond to course material. All synchronous meetings will take place during scheduled course hours; other activities will be accessible asynchronously.

**Dr. Jordan Kraemer**

jk5773@nyu.edu

Dibner Building, 5 MetroTech Center, 1<sup>st</sup> Floor, Room 142**Student hours:** Tuesdays 4-4:50pm, or by appointment (sign up on NYU Connect, meet at <https://nyu.zoom.us/j/5502060844>)**Goals**

1. to **understand** concepts in feminist theory, science and technology studies, and feminist technoscience.
2. to **analyze** cultural and social understandings of sex and gender and how they shape science and technology, through empirical examples.
3. to **identify and explain** implications of feminist perspectives for understanding the production of technology and scientific knowledge in different cultural contexts.
4. to **develop** original inquiry into technological and scientific practice through a social science research project.

**Structure**

The remote version of this course is organized as a tutorial in which students meet weekly with the professor in small groups. We will divide the current course hours of approx. four hours per week into four weekly one-hour sessions. There will be a sign-up available at the beginning of class.

Weekly meetings will consist of small group discussion once per week and independent group work. This is a reading intensive course so there will be required weekly readings, along with pre-recorded video lectures and supplemental materials such as articles and podcasts. Please come prepared each meeting to discuss the assigned readings, with reading notes and questions for discussion. Each student will contribute at least two discussion questions to guide the conversation each week.

**Readings**

All readings are available through the course blog, [wp.nyu.edu/tandonschoolofengineering-fall2020introfstem](http://wp.nyu.edu/tandonschoolofengineering-fall2020introfstem), or Dibner digital reserves.

**Required texts**

*Women, Science, and Technology: A Reader in Feminist Science Studies*, 2013, Mary Wyer, Mary Barbercheck, Donna Cookmeyer, Hatice Ozturk, Marta Wayne, eds. New York: Routledge.  
<https://www-taylorfrancis-com.proxy.library.nyu.edu/books/9780203427415>

**Recommended texts**

Ruth Oldenziel 1999 *Making Technology Masculine: Men, Women, and Modern Machines in America, 1870-1945*. Amsterdam: Amsterdam University Press.  
<http://www.jstor.org.proxy.library.nyu.edu/stable/j.ctt46mtdk>.

- Fiona Hovenden, Linda Janes, Gill Kirkup, and Kathryn Woodward, eds. 1999. *The Gendered Cyborg: A Reader*. London: Routledge. <https://ebookcentral-proquest-com.proxy.library.nyu.edu/lib/nyulibrary-ebooks/reader.action?docID=1397045&ppg=55>
- Carole McCann and Seung-kyung Kim, eds. 2013. *Feminist Theory Reader: Local and Global Perspectives*. Florence: Taylor & Francis Group. <https://ebookcentral-proquest-com.proxy.library.nyu.edu/lib/nyulibrary-ebooks/detail.action?docID=1211688>
- Anne Fausto-Sterling. 2000. *Sexing the Body: Gender Politics and the Construction of Sexuality*. New York: Basic Books. <http://ebookcentral.proquest.com/lib/nyulibrary-ebooks/detail.action?docID=904413>.
- Sandra Harding. 1986. *The Science Question in Feminism*. Ithaca, NY: Cornell UP. <https://hdl-handle-net.proxy.library.nyu.edu/2027/heb.32980>

## Requirements & assignments

The requirements & assignments for this course are worth 1000 points total (100%). At the end of the semester, I tally up the items to calculate your final grade.

Participation: 20%

Weekly reading questions: 10%

Weekly discussant & report: 10%

Short response papers (2): 30% (due Oct. 4 and Nov. 1)

Final project: 30% (due Dec. 13)

### NYU Classes (assignments and grades)

<https://newclasses.nyu.edu/portal/site/1cef5733-1eb8-4c31-9a66-2d8f1b0bf770>

#### 1. Participation 20%

Come prepared each week to discuss the readings and to create a weekly group report. Bring copies of the readings and questions/notes for discussion.

- **Participation** involves: *contributing* to class discussions, *listening actively* to others, *coming prepared* to discuss the readings, and *being present and on time* for each class meeting.
- **Each week, you will prepare a group report** on the readings for the week, summarizing key ideas, questions, and discussion.
- **Participation can also include** responding to others' comments on the course blog.
- **Participation will be graded** through a midterm and final self-evaluation form.
- **Attendance** is required. See **Policies**, below, on lateness and absences.

#### 2. Weekly reading questions 10%

- **Each week** (for weeks 2-14) **before class**, you must post reading questions on the course blog (on the page for that week, as a comment). These are credit/no credit.

#### 3. Weekly group discussant: 10%

- **You will facilitate group work** 3x per semester and **prepare a group report** of what you discussed. The report should be at least 2 pages and summarize key themes, questions, and discussion.
- **Review the discussion questions** posted before class by the members of your group and take note of shared themes and points.
- **Prepare** to direct the discussion and lead the group report.

#### 4. Reading response essays (2): 30% (Oct. 4 and Nov. 1 by midnight on NYU Classes)

For the reading response essays, you will compare and contrast or analyze and apply two required readings from the preceding four weeks (1-2pp, ~500 words).

#### 5. Final project (paper or presentation): 30% (due Dec. 13 by midnight on NYU Classes)

For the final project, you have two options:

- 1. **Analyze a course theme/concept** across multiple readings and synthesize an original argument (e.g., objectivity, naturalizing difference, embodiment, knowledge-making, etc.).
- OR
- 2. **Apply course concepts/theories** to analyze a real world example/case study (e.g., socialist feminism; social construction of gender & technology; feminist epistemology; intersections of race & gender; crip technoscience; etc.).
- **For either option, you will:**
  - Choose a topic (Week 8).
  - Submit a 1 page project overview including summary & bibliography (Week 9).
  - Write a final 8-10pp paper or slide presentation (approx. 15-20 min talk)
  - Present your project to the class (~5 min. presentations, Week 15).

## Policies

**Attendance & Absences** Attendance is required and will be reflected in your participation grade.

- You are permitted **one unexcused absence** per term (not including add/drop days at the beginning of the course), requested in writing.
- **Three or more unexcused absences** will result in the loss of a letter grade.
- **Four or more unexcused absences** will result in a failing grade.
- **Excused absences include:**
  - observance of religious holidays, participation in athletic events, and job or graduate school interviews for seniors (2 maximum per student for interview-related absences).
  - For these absences to be excused, you must inform me of your absence no later than **the class prior to your absence**.
- For extenuating circumstances (illness, family emergencies, etc.), contact **Deanna Rayment** ([deanna.rayment@nyu.edu](mailto:deanna.rayment@nyu.edu), 646-997-3046, Room LC240 in 5 Metrotech), in Student Life so that I can excuse your absence or lateness.

**Late work & extensions** In light of current pandemic circumstances, I will grant extensions requested in advance. Please secure approval **at least one week** before the deadline, barring unforeseen exigencies. Papers handed in after the deadline without prior approval will in most cases be penalized one-third of a full letter grade per day.

- You may have **ONE** one-day extension, no questions asked (but please notify me), during the semester.

**Email & communication** I will try to respond to all emails promptly, but please allow up to 24 hours (or 48 hours over the weekend) for me to get back to you.

### Plagiarism

Plagiarism will not be tolerated. What is plagiarism? Plagiarism occurs when you use another's words, ideas, assertions, data or figures and do not acknowledge that you have done so. In simple terms, plagiarism is a form of theft. If you use the words, ideas or phrasing of another person or from published material, you must:

- Use quotation marks around the words and cite the source.
- Alternatively, you may paraphrase or summarize acceptably and cite the source.

If you use charts, graphs, data sets or numerical information obtained from another person or from published material, you must also cite the source. Whether you quote directly or paraphrase the information, you must acknowledge your sources by citing them. In this way, you have the right to use another's words by giving that person credit for the work he or she has done. You must provide accurate source attribution in your response reflections for this class.

## Schedule of topics, readings & assignments

### — Part I: Feminist Theories —

#### Week 1 Gender in science & technology

Sept. 3

- Why is there (still) gender bias in science and tech?
- Cynthia Cockburn 1983 "Caught in the Wheels." *Marxism Today*.
- *Listen: How to Think About Science*, Evelyn Fox Keller, <https://beta.prx.org/stories/41021>

#### *Recommended*

- Corinne A. Moss-Racusin, John F. Dovidio, Victoria L. Brescoll, Mark J. Grahama, and Jo Handelsman, 2012 "Science faculty's subtle gender biases favor male students," *PNAS* 109(41): 16474–16479.
- Banu Subramaniam, "Moored Metamorphoses: A Retrospective Essay on Feminist Science Studies," *Signs*, 34(4): 951-980.

#### Week 2 Naturalizing Difference

Sept. 8 & 10

- Audre Lorde, “The Master’s Tools Will Never Dismantle the Master’s House” 1979.
- Audre Lorde, “Age, Race, Class and Sex: Women Redefining Difference” 1980.
- bell hooks, “Theory as Liberatory Practice” *Yale Journal of Law & Feminism* 4:1, 1991-1992.

### Week 3 Sex or gender?

Sept. 15 & 17

- Ann Fausto Sterling 2000 “Dueling Dualisms?” In *Sexing the Body: Gender Politics and the Construction of Sexuality*, Basic Books. <https://ebookcentral-proquest-com.proxy.library.nyu.edu/lib/nyulibrary-ebooks/detail.action?docID=904413>.
- Sherry Ortner 1972 “Is Female to Male as Nature Is to Culture?” *Feminist Studies* 1(2): 5–31.

*Recommended*

- Simone de Beauvoir 1952 *The Second Sex*: “Introduction.” In the *Feminist Theory Reader*.
- Judith Butler 1986 “Sex and Gender in Simone de Beauvoir's *Second Sex*” *Yale French Studies* No. 72, Simone de Beauvoir: Witness to a Century, pp. 35-49.
- Monique Wittig 2013 [1981] “One is not born a woman.” In *Feminist Theory Reader*. Florence. Carole McCann, and Seung-kyung Kim, eds.

### Week 4 Socialist feminism: the gendered division of labor

Sept. 22 & 24

- Friedrich Engels, “Origins of the Family, Private Property and the State,” pp. 63-67 (skim); 74-75 (skim); 78-79; 86-92; 96-98 (<https://ebookcentral-proquest-com.proxy.library.nyu.edu/lib/nyulibrary-ebooks/reader.action?docID=3008609&ppg=76>)
- Cynthia Cockburn 1981 “The Material of Male Power.” *Feminist Review* 9: 41-58.

### Week 5 Domesticating technology

Sept. 29 & Oct. 1

- Ruth Oldenziel 1999 *Making Technology Masculine: Men, Women, and Modern Machines in America, 1870-1945*. (Introduction; Epilogue) <http://www.jstor.org.proxy.library.nyu.edu/stable/j.ctt46mtdk>.
- Ruth Schwartz Cowan 1976 “The “Industrial Revolution” in the Home: Household Technology and Social Change in the 20th Century,” *Technology and Culture* 17(1):1-23.

### — Part II: Social studies of gender & technology —

--- First Reading Response Due on NYU Classes by Midnight, Sunday Oct. 4 ---

### Week 6 Knowledge & epistemology

Oct. 6 & 8

- Evelyn Fox Keller. “Feminist Perspectives on Science Studies.” *Science, Technology, & Human Values* 13(3–4): 235–49.
- Interview: “Conversations with Evelyn Fox Keller,” <http://www.methodquarterly.com/2014/11/conversations-with-evelyn-fox-keller/>
- Gegeo, David Welchman, and Karen Ann Watson-Gegeo. 2001. “‘How We Know’: Kwara'ae Rural Villagers Doing Indigenous Epistemology.” *The Contemporary Pacific* 13(1).

University of Hawai'i Press: 55–88. **Read pp. 55-61, including “What is Epistemology?”**

- Kim TallBear, “Indigenous Bioscientists Constitute Knowledge across Cultures of Expertise and Tradition: An Indigenous Standpoint Research Project,” in *Re: Mindings*, 173-189.

### Week 7 Feminist objectivity

Oct. 13 & 15

- Donna Haraway 1988 *Situated Knowledges: the Science Question in Feminism and the Privilege of Partial Perspective*. *Feminist Studies* 14(3): 575–599.
- Banu Subramaniam 2013 “Snow Brown and the Seven Detergents: A Metanarrative on Science and the Scientific Method,” in *Women, Science, and Technology: A Reader in Feminist Science Studies*, Mary Wyer, Mary Barbercheck, Donna Cookmeyer, Hatice Ozturk, Marta Wayne, eds. New York: Routledge.

#### Recommended

- Sandra Harding 1986 “From Feminist Empiricism to Feminist Standpoint Epistemologies,” In *The Science Question in Feminism*, Cornell UP.
- Sandra Harding 2017. “Strong Objectivity” and Socially Situated Knowledge. In *Whose Science? Whose Knowledge?* Ithaca, NY: Cornell UP: 138-163. <https://www-degruyter-com.proxy.library.nyu.edu/view/books/9781501712951/9781501712951-007/9781501712951-007.xml>
- Karen Barad 1996 “Meeting the Universe Halfway: Realism and Social Constructivism Without Contradiction.” *Feminism*.

### Week 8 The gendered shaping of technology

Oct. 20 & 22

- Judy Wajcman 2010 “Feminist Theories of Technology,” *Cambridge Journal of Economics* 34: 143-152.
- Francesca Bray 2013 “Gender and Technology,” Chapter 22 in *Women, Science, and Technology: A Reader in Feminist Science Studies*, p. 370-384.
- Dawn Nafus 2012 “‘Patches Don’t Have Gender’: What Is Not Open in Open Source Software.” *New Media and Society* 14(4): 669–683.

#### Recommended

- Donald A. MacKenzie and Judy Wajcman 1999. *The Social Shaping of Technology*. Buckingham: Open University Press.
- Wendy Faulkner. 2001. “The Technology Question in Feminism: A View from Feminist Technology Studies,” *Women’s Studies International Forum* 24(1): 79–95.
- Judy Wajcman 2004 *TechnoFeminism*. Polity.
- Lucy Suchman 2008 Chapter 6: Feminist STS and the Sciences of the Artificial. In *The Handbook of Science and Technology Studies*. Edward J Hackett, ed. MIT Press.

### — Part III: Feminist technoscience —

### Week 9 Reproducing gender

--- Choose final project topic to share in class ---

Oct. 27 & 29

- Emily Martin 1991 “The Egg and the Sperm: How Science Has Constructed a Romance Based on Stereotypical Male-Female Roles.” *Signs* 16(3): 485-501.
- Angela Davis 2000 (1991) “Outcast Mothers and Surrogates: Racism and Reproductive Politics in the Nineties.” In *The Feminist Theory Reader*. Wendy Kolmar and Frances Bartkowski, eds. Mayfield.

*Recommended*

- Sarah Franklin 2006 “The Cyborg Embryo: Our Path to Transbiology,” *Theory, Culture & Society* 23(7-8):167–187.
- Sarah Franklin 1995 'Romancing the Helix: nature and scientific discovery', in J. Stacey and L. Pearce, eds. *Romance Revisited*, London: Falmer Press, pp. 63-77.

--- Second Reading Response Due on NYU Classes by Midnight, Sunday Nov. 4 ---

### **Week 10 Technologies of race**

Nov. 3 & 5

- Alondra Nelson 2002, Introduction: FUTURE TEXTS. *Social Text* 20 (2 (71): 1–15.
- Evelyn M. Hammonds 1999, “New Technologies of Race, In *The Gendered Cyborg: A Reader*, Fiona Hovenden, Linda Janes, Gill Kirkup, and Kathryn Woodward, eds. <https://ebookcentral-proquest-com.proxy.library.nyu.edu/lib/nyulibrary-ebooks/reader.action?docID=1397045&ppg=320>

*Recommended reading*

- Lisa Nakamura “Indigenous Circuits: Navajo Women and the Racialization of Early Electronic Manufacture,” *American Quarterly* 66.4: 919-941.

### **Week 11 Computing gender**

--- 1 page final project description & annotated bibliography due (via email) ---

Nov. 10 & 12

- Jennifer Light 2013 1999 When Women Were Computers, in *Women, Science, and Technology*, Mary Weyer et al. eds., New York: Routledge.
- Ulf Mellström 2013 2009 The Intersection of Gender, Race and Cultural Boundaries, or Why Is Computer Science in Malaysia Dominated by Women? In *Women, Science, and Technology*, Mary Weyer et al. eds., New York: Routledge.

*Recommended*

- Marie Hicks 2017. *Programmed Inequality: How Britain Discarded Women Technologists and Lost Its Edge in Computing*. Cambridge, Massachusetts: The MIT Press. <https://ieccexplore-ieee-org.proxy.library.nyu.edu/servlet/opac?bknumber=7904022>
- Rena Bivens 2017 “The Gender Binary Will Not Be Deprogrammed: Ten Years of Coding Gender on Facebook.” *New Media & Society* 19(6): 880–98.



- P. Bhattarai 2017. Algorithmic Value: Cultural Encoding, Textuality, and the Myth of “Source Code,” *Catalyst: Feminism, Theory, Technoscience*, 3(1), 1-28.

### Week 12 Rethinking gender theory

Nov. 17 & 19

- Susan Stryker 2013, (De)Subjugated Knowledges: An Introduction to Transgender Studies. In *The Transgender Studies Reader*, Susan Stryker, Stephen Whittle, Eds. Routledge.
- *Essay*: Judith Butler. *New Statesman*. “The backlash against ‘gender ideology’ must stop.” Jan. 21, 2019. <https://www.newstatesman.com/2019/01/judith-butler-backlash-against-gender-ideology-must-stop>

*Recommended*

- Sandy Stone 1987 The Empire Strikes Back: A Posttranssexual Manifesto

### Week 13 Crip technoscience

--- Peer review of final project introduction & outline ---

Nov. 24 & 26

- Aimi Hamraie & Kelly Fritsch 2019. Crip technoscience manifesto. *Catalyst: Feminism, Theory, Technoscience*, 5(1), 1-34.
- *Website*: <http://engineeringathome.org/>
- *Talk*: Liz Jackson, Empathy reifies disability stigmas <https://interaction19.ixda.org/program/keynote--liz-jackson/>
- *Essay*: Jillian Weise, Common Cyborg, *Granta*, Sept. 24, 2018 <https://granta.com/common-cyborg/>

*Recommended*

- Liz Jackson, We Are the Original Lifehackers, *The New York Times*, May 30, 2018. <https://www.nytimes.com/2018/05/30/opinion/disability-design-lifehacks.html>

### Week 14 Reflections on feminist technoscience

Dec. 1 & Dec. 3

- Deborah Johnson, 2009 Sorting Out the Question of Feminist Technology. In *Feminist Technology*. Linda Layne, Sharra Vostral, and Kate Boyer, eds. Pp. 1–17. University of Illinois Press.
- Karen Barad 1996 “Meeting the Universe Halfway: Realism and Social Constructivism Without Contradiction.” *Feminism*.

### Week 15 Conclusion

--- share final projects ---

Dec. 8 & Dec. 10

## NYU Tandon Policies & Information

### Moses Center Statement of Disability

If you are student with a disability who is requesting accommodations, please contact New York University's Moses Center for Students with Disabilities (CSD) at [212-998-4980](tel:212-998-4980) or [mosescsd@nyu.edu](mailto:mosescsd@nyu.edu). You must be registered with CSD to receive accommodations. Information about the Moses Center can be found at [www.nyu.edu/csd](http://www.nyu.edu/csd). The Moses Center is located at 726 Broadway on the 2nd floor.

### Health and Wellness

To access the University's extensive health and mental health resources, contact the NYU Wellness Exchange. You can call its private hotline (212-443-9999), available 24 hours a day, seven days a week, to reach out to a professional who can help to address day-to-day challenges as well as other health-related concerns.

### Bias Response Line

For any concerns about bias at NYU, contact the NYU Bias Response line at 212-998-2277 or at [bias.response@nyu.edu](mailto:bias.response@nyu.edu). Or complete the online form at: <https://www.nyu.edu/about/policies-guidelines-compliance/equal-opportunity/bias-response/report-a-bias-incident.html>

### NYU School of Engineering Policies and Procedures on Academic Misconduct *(from the School of Engineering Student Code of Conduct)*

- A. **Introduction:** The School of Engineering encourages academic excellence in an environment that promotes honesty, integrity, and fairness, and students at the School of Engineering are expected to exhibit those qualities in their academic work. It is through the process of submitting their own work and receiving honest feedback on that work that students may progress academically. Any act of academic dishonesty is seen as an attack upon the School and will not be tolerated. Furthermore, those who breach the School's rules on academic integrity will be sanctioned under this Policy. Students are responsible for familiarizing themselves with the School's Policy on Academic Misconduct.
- B. **Definition:** Academic dishonesty may include misrepresentation, deception, dishonesty, or any act of falsification committed by a student to influence a grade or other academic evaluation. Academic dishonesty also includes intentionally damaging the academic work of others or assisting other students in acts of dishonesty. Common examples of academically dishonest behavior include, but are not limited to, the following:
  1. **Cheating:** intentionally using or attempting to use unauthorized notes, books, electronic media, or electronic communications in an exam; talking with fellow students or looking at another person's work during an exam; submitting work prepared in advance for an in-class examination; having someone take an exam for you or taking an exam for someone else; violating other rules governing the administration of examinations.

2. **Fabrication:** including but not limited to, falsifying experimental data and/or citations.
3. **Plagiarism:** intentionally or knowingly representing the words or ideas of another as one's own in any academic exercise; failure to attribute direct quotations, paraphrases, or borrowed facts or information.
4. **Unauthorized collaboration:** working together on work that was meant to be done individually.
5. **Duplicating work:** presenting for grading the same work for more than one project or in more than one class, unless express and prior permission has been received from the course instructor(s) or research adviser involved.
6. **Forgery:** altering any academic document, including, but not limited to, academic records, admissions materials, or medical excuses.