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## Inside 21<sup>st</sup> Century Creativity EDHD 231 Spring 2018

Tuesday and Thursday 11:00 AM-12:15PM  
Location Benjamin 3315  
Professor: Kevin Dunbar, Benjamin 3304K,  
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Office hour: Tuesday 10:00 am or by appointment  
Graduate Assistant Hongyang Zhao

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limitless creativity: Music, Art, & digital devices are central to contemporary creativity and its development. Creativity is key to Literature, Science, Dance, Cooking, human development, education, and even Money. What underlies these vastly different aspects of the creative mind and creativity in a socially networked world? In a highly interactive, inter-disciplinary and multimedia manner we will examine the nature of the creative mind, culture, and creative contexts from multiple perspectives. We will consider the psychological, social, sociological, developmental, cultural, computational, educational, genetic and neural roots of creativity. We ask what are the factors and mechanisms underlying creativity and whether 21<sup>st</sup> century creativity is different from creativity in other eras. How can we educate the creative mind? Finally, what is the role of social media, digital devices, and even theft in 21<sup>st</sup> century creativity. More specifically, we will address the following questions:

### **Course objectives. EDHD231 students will demonstrate:**

1. An understanding of both the nature and breadth of creativity. The focus will be on the underlying mechanisms of the creative process across multiple contexts and domains;
2. An understanding of both the history of creativity research and how this relates to theories of cognitive, social and cultural dimensions of creativity as well as the ways that creativity has been measured;
3. Understanding of the roles of biological processes in creative thought, including brain based mechanisms that influence creativity and genetic and neurochemical factors influencing creativity;
4. Understanding of the different forms that creativity takes in different domains, such as music, the visual arts, performing arts, and different sciences;

5. Understanding of the concept of “malevolent creativity,” where creativity is used to do harm. How to prevent this from happening and determine whether “creativity gone bad” taps a different form of creative imagination;
6. Understanding of ways in which creativity can be enhanced: Educational, pharmaceutical, social engineering have all been used to enhance creativity; do they work and how would we know if they work?

### **Course Structure**

Two classes per week, involving lectures, class discussions, demonstrations, and in-class activities. Lecture slides will also be posted on Canvas *after* each Thursday’s class. Starting in week 3, *Tuesday classes will be student designed and led*. Thursday classes will be led by the Professor. Class starts promptly. Be on time. Attendance will be taken and is mandatory as this leads to participation. Stay for the entire class.

### **Overview of key Course Requirements**

#### **Group Presentations (2) - MSGE**

Each week two groups of 5 students will present one of the basic themes of a reading for that week, in creative ways, such as sketches, online quizzes, votes, talks, debates, competitions, etc. These are the **“Tuesday Creativity Explosion”** presentations. The presentations will be for 25 minutes. The last 10 minutes of each class will be devoted to peer commentary for the presentations. Students will give two presentations overall: One presentation before the Spring break and one after Spring break. The goal is to present the ideas in and *go beyond* the readings in an engaging, intelligent and interactive manner. We will help you design and refine your presentations. The Tuesday Creativity explosion is your chance to fulfill a course requirement in a creative, interactive, but intellectually rigorous way. The goal is to move beyond the readings and engage the entire class in an active exploration of the theme for the week. We, the GA and I, will discuss the presentation *prior* to the presentation through ELMS. (You should make minimal, or **even no use of Youtube, Powerpoint, Keynote, Prezzi, or similar presentation tools--** Presentations will begin on **week 3 (February 6)**. Each group will present **twice for 20 minutes**, once before spring break and once after the break. We will assign you to your group and presentation date next Thursday and again on March 6. Each group must submit a peer evaluation of their respective contributions. Note that if one group member does not contribute to the group presentation that person will receive a zero for their presentation.

#### **Theme Papers**

Theme papers (submitted through Canvas) are a 2-3 page (double-spaced, 1 inch margins times 12 point, no references needed) are papers in which you will present the underlying themes of the readings for the prior two weeks. In your paper you will focus on the overarching themes of the readings for the two weeks. Each paper will be graded out of 100. A guide on how to write the Theme papers, and how the grading criteria that will be used will be given next Tuesday. Late papers will be penalized 10 points for each day late (including weekends) and will not be accepted if a week late. There are two theme papers due. There will be a prompt for each paper.

#### **Final Examination Essay – MSGE**

The final examination in this course is an essay that will be about a key topic in creativity that has been covered in the course and/or is relevant to the course. Pick a topic from the list of 70 topics below. A one paragraph proposal of what will be in your essay must be submitted through Canvas by Sunday April 8.

**Concept Mapping.** This is a creative way of generating and integrating ideas within a group.

### **Evaluation seven components**

- (1) Two group Presentations (20%). Each of the two presentations is worth 10%. Thus, presentations are worth 20% of the final grade. The group presentation grades are based on the content, creativity, clarity and persuasiveness of the presentation. Presentations should include student engagement and participation.
- (2) Midterm Examination (15%). The midterm will be multiple choice and will cover some of the basic concepts and issues in creativity. A practice version of the midterm will be given 1 week prior to the midterm.
- (3) Final Examination Essay proposal (5%). This will be Due on April 8, submitted through ELMS. The proposal will be one paragraph (roughly 8 to 10 lines).
- (4) Final Examination Essay (20%). MSGE
- (4) Two Theme Papers, with each theme paper being worth 7.5% (15%).
- (5) In Class Participation (15%). This will be based on participation in the class discussions and activities. Note that for participation to occur you must be there! Attendance is mandatory. Note that at the end of each class there is 15 minutes set aside for participation. Here, groups of students will formulate written answers to the overarching questions posed by the presenters and or the professor (one written answer per group of 5 students).
- (6) Group concept Mapping creativity Day (7%). Three questions will be posed before the class and groups of ten students will formulate answers to the question and construct a concept map for the question and reach a group conclusion as to the answer.
- (7) Creativity Quiz (3%)

**Readings** – A collection of pdfs on ELMS All readings must be read before class. This leads to great in class discussions and in class participation. A full list of the readings is included at the end of this syllabus. Additional readings may be assigned during the course.

### **Class Policies**

**Please visit <http://www.ugst.umd.edu/courserelatedpolicies.html> for detailed information on the University's policies with regard to undergraduate education.**

**Academic Integrity:** The University of Maryland, College Park has a student-administered Honor Code and Honor Pledge. For more information on the Code of Academic Integrity or the Student Honor Council, please visit <https://www.studentconduct.umd.edu>. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. The code prohibits students from cheating, fabrication, facilitating academic dishonesty, and plagiarism. Instances of this include submitting someone else's work as your own, submitting your own work completed for another class without permission, or failing to properly cite information other than your own (found in journals, books, online, or otherwise). Any form of academic dishonesty will not be tolerated, and any sign of academic dishonesty will be reported to the appropriate University officials.

### **Class Attendance, Climate & Electronics Policy**

Students are expected to attend and actively participate in each class except in the case of illness or an extenuating circumstance. If missing class, students are responsible for obtaining additional notes from a classmate. Arrive on time and leave on time. Missed classes due to illness or university activities must be officially documented.

Once class begins, students are expected to conduct themselves professionally. Cell phones must be turned off and put away during class unless there is an extenuating circumstance. Laptops and tablets are permitted during class but should only be used for accomplishing class objectives such as taking notes or for discussion activities.

Students who disregard this policy will be asked to put away their devices and leave the class immediately resulting in an automatic zero for the inclass activity for that day. If this becomes a persistent issue in the class, then a no-technology policy will be instituted.

## Inside 21<sup>st</sup> Century Creativity Spring 2018 Detailed Schedule

Week 1, Thursday January 25: Introduction to the Course & overview of presentations & Grading

- A. Lehrer, J. (2012). Introduction to Imagine: How Creativity works. Pages i-xx. Houghton Mifflin Harcourt. New York. NY.
- B. Rothman, J. (2014). Creativity Creep. The New Yorker September 2.  
<http://www.newyorker.com/books/joshua-rothman/creativity-creep>

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Week 2, January 30, Feb 1: Understanding the process and products of Creativity

- A: Weisberg, R. E. (2010) The study of creativity: from genius to cognitive science. *International Journal of Cultural Policy*, 16, 235–253.  
<http://www.wsj.com/articles/SB10000872396390443991704577577433289673596>
- B: Mishra, P. & Henriksen, D. (2018). *Creativity, Technology & Education: Exploring their Convergence*, Springer Briefs in Educational Communications and Technology, doi 10.1007/978-3-319-70275-9\_9

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Week 3, Feb 6 & 8, The brain and creativity **Presentation 1**

- A: Kaufman, S., B. (2013). The real neuroscience of creativity. Scientific American, August 17
- B: National Endowment for the Arts (2015). How Creativity works in the brain. Chapter 1, Pages 16-22.

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Week 4, February 13, 15: The development of Creativity **Presentation 2**

- A: Sharp, C. (2004). Developing young children's creativity: What can we learn from research. *Topic*, 32, 5-12
- B: Russ, S.W. (2016). Pretend play: Antecedent of adult creativity In B. Barbot (Ed.) *Perspectives on creativity development*. New Directions for Child and Adolescent Development, 151, 21-32.

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Week 5, Feb 20, & 22: Gender and Creativity **Presentation 3**

- A: Runco, M. A., Cramond, B., & Pagnani (2010). Gender and Creativity. Chapter 17 of *Handbook of Gender Research in Psychology*, J.C. Chrisler, D.R. McCreary (eds.). Pp 343-357.
- B: Conor, Gill, Taylor (2015). Gender and Creative labor. *The Sociological Review*, 63, 1–22.

**FEBRUARY 22 Concept Mapping Activity.** Groups will address three Questions about gender and Creativity: Construct Concept Maps through discussion and present conclusions (Worth 7% of final grade). Markers paper, and mapping materials will be given in class.

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Week 6. *General Processes Underlying Creativity* Feb 27 & March 1 **Presentation 4**

- A: Dumas, D., & Dunbar, K. N. (2016). The Creative Stereotype Effect *PLOS One*
- B: Hamblin, J. (2014). The Creativity Pill, *The Atlantic*, July 17

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Week 7, March 6 & March 8 Processes underlying 21<sup>st</sup> Century Art, and Dance & Literature **Presentation 5**

- A: Indurkha, B., & Ogawa, S. (2012). Mechanisms of Creativity in Visual Arts. *Proceedings of the Cognitive Science Society* 34, 1727-1732.
- B: Kirsh, D. (2011). Creative Cognition in Choreography. *Proceedings of 2nd International Conference on Computational Creativity*, pp 141-146.

## MIDTERM SUNDAY March 11 on ELMS TAKE HOME OPEN BOOK 30 questions

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Week 8,: March 13 & March 15 Scientific Creativity

- A: Dunbar, K.N. (2000). How Scientists Think in the Real World: Implications for Science Education. *Journal of Applied Developmental Psychology*, 21(1): 49–58
- B: Zhang, S. (2018). Battle-genome-editing-gets-science-wrong, *Wired*, January

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### *Spring Break, March 18-March 25*

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Week 9, March 27 & March 29: Cooking, Food & Cuisine: The 21<sup>st</sup> century revolution **Presentation 6**

- A: Billow, R. (2014). How IBM's chef Watson actually works. *Bon Appetit* magazine, June 30.  
<http://www.bonappetit.com/entertaining-style/trends-news/article/how-ibm-chef-watson-works>
- B: Cousins, J., O'Gorman, K.D.. and Stierand, M. (2011). Molecular gastronomy: Basis for a new culinary movement, or modern day alchemy? *International Journal of Contemporary Hospitality Management*. 22, 399-415.

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Week 10, April 3, & 5. Computers Smartphones and Robots: The New Digital Creativity **presentation 7**

- A: Petitto, L.A., et al. (2018). Robots, Avatars and Language Acquisition. Manuscript submitted for publication
- B: Fitzgerald, T., Goel, A., Thomaz, A. (2016). Human-Robot Co-Creativity: Task Transfer on a Spectrum of Similarity

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Theme paper 1 due April 8

Week 11 April 10 & April 12. Cash to Bitcoin & Beyond The creativity revolution before our eyes  
**Presentation 8**

- A: Lipton, A., & Pentland, A. (2018). Breaking the Bank: New financial networks could stop the concentration of wealth and increase participation in the economy—but only if used with care, *Scientific American*, January, 2018.
- B: Corso, R. & Robinson, C-H. (2013). Enhancing Creative Thinking abilities through the use of Social Media. *International Journal of Knowledge, Innovation, & Entrepreneurship* 1, 92-105.

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Week 12 April 17 & 19 Music & Creativity **Presentation 9**

- A: Draper, P. (2009). How online social networks are redefining knowledge, power, 21st century music-making and higher education. *Journal of Music Research Online*
- B: Nonemaker, E. (2018). What is a 21<sup>st</sup> century musician + The Future of classical music is....Instagram.  
Published online by 21CM.org

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Theme paper 2 due April 20

Week 13, April 24, & 26: Malevolent Creativity or just normal creativity Beyond **Presentation 10**

- A. Gladwell, M. (2011). "Creation Myth: Xerox PARC, Apple, and the truth about innovation" *The Atlantic Magazine* May 16.
- B. Cropley, A. Kaufman, C, Cropley, C. (2008). Malevolent Creativity: A Functional Model of Creativity in Terrorism and Crime. *Creativity Research Journal*, 20(2), 105–115

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Week 14, May 1 & 3

- May 1 Putting Creativity Together: The Analogical Copying Tool. What is creativity Quiz (3%)
- May 3 Questions and answers about the final essay



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*Additional or different readings may be assigned to particular weeks*

DETAILED SUMMARY OF Grading THE COMPONENTS for the course

**Grading Scale**

<b>A+</b>	97-100%	<b>B+</b>	87-89%	<b>C+</b>	77-79%	<b>D+</b>	67-69%	<b>F</b>	below 60%
<b>A</b>	93-96%	<b>B</b>	83-86%	<b>C</b>	73-76%	<b>D</b>	63-66%		
<b>A-</b>	90-92%	<b>B-</b>	80-82%	<b>C-</b>	70-72%	<b>D-</b>	60-62%		

**Theme Papers**

Theme Papers- are 2-3 pages. double-spaced (100 points)

Integration of themes in the papers

- What are the underlying questions, themes or assumptions made about creativity across the readings?
- How do the of readings relate, or don't relate to each other
- What is your own view on this topic?
- Discuss an idea not mentioned in the reading that you feel is relevant to the topic or Discuss possible consequences or implications of the themes in the readings..

**Two Presentations** (100 points each). We will help you formulate a presentation. Make the presentation original.

**Try not to use Powerpoint or youtube**, but can generate quizzes, have debates. Stimulate discussion of the themes. Content, Group Activities, Engagement and originality will be graded .

**Concept Mapping Day.** Here groups will engage in a concept mapping activity on the topic of Gender and Creativity. Questions will be posed. Using markers and tear away boards groups of students will propose answers to the questions.

**Midterm.** This will be a multiple choice exam concerning the foundations of creativity concepts. These concepts form the underlying framework for understanding creativity

**Final Essay proposal.** Due on Canvas April 7

Here you state what your topic will be and what type (s) of evidence you will use to support your thesis. 1 paragraph double spaced 12 point font.

**Final Essay.** Due on Canvas between May 3 and May 12 by midnight. The essay itself should be 8- pages (minimum) up to 9 pages (maximum) double-spaced. The page count excludes the reference page(s) and cover page. The essay should be submitted in APA format. All this will be explained in great detail during the course and will be explained to you in a special class. Writing style and the structure of your arguments will be graded. The essay must be submitted via Canvas no later than May 12.

**Quiz on Creativity.** This will be a little quiz on some of the issues that arose during the course