

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

**Professor:** Kevin N. Dunbar  
**Class Times** Tuesday and Thursday  
 Section 0101 09:30-10:45 AM  
 Section 0201 14:00-15:15 PM  
**Office:** Benjamin 3304K  
 (405) 425-7233, [kndunbar@umd.edu](mailto:kndunbar@umd.edu)  
**Office hours:** Tuesday 11:15-12:15 am  
 or by appointment  
**Graduate Assistants:**

Natalia Guzman, Annie Li, Eric Schoute

## Course Rationale.

We live in a world of limitless creativity: Music, Visual Art, Literature & digital devices are central to contemporary creativity and its development. Creativity is key in Literature, Psychology, Science, Dance, Cooking, Human Development, Education, and the Evolution of the Human Species.

What underlies these vastly different aspects of creativity? 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 foster the creative mind no matter what the field? Finally, what is the role of social media, digital devices, and even theft in 21<sup>st</sup> century creativity.



## 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. An Understanding of the roles of biological processes in creative thought, including brain based mechanisms that influence creativity and the genetic factors influencing creativity;
4. Understanding of the different forms that creativity takes in different domains, such as music, the visual arts, literature, performing arts, and different sciences; Are mentally disturbed artists, musicians, writers, scientists more creative than non disturbed people?
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 from standard creativity

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?
7. The ability to think critically, evaluate different sources of evidence, engage in collaborative reasoning and analyze competing arguments to arrive at integrated explanations for multifaceted issues will be a key learning objective this course.

### **Professor & TA Contact Information**

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Professor Dunbar Tuesday & Thursdays 8:45-9:15) section 001 in classroom. Section 002 Tuesday Thursday 1:10-1:45 in classroom OR by appointment at his office in the Benjamin Building. Suite 3304 in the Department of Human Development and Quantitative Methodology. One Teaching assistant will always be available for one hour a week, times and place to be announced. Individual appointments with TAs can also be pre arranged through email contact.

### **Course Structure**

Two classes per week, involving lectures, class discussions, debates, demonstrations, and in-class activities. Lecture slides will also be posted on Canvas *after* each Thursday's class. Starting in week 4, *Tuesday's classes will be student designed and led.* Thursday classes will be led by the Professor. Class starts promptly. Be on time. In class discussion is a key part of the course thus attendance is necessary and required.

### **Course Requirements**

**Group Presentations (two presentations per group).** - MSGE Starting on the week of September 18. Three groups of five students will present one of the underlying themes for that week. The professor and the GAs will assign you to a particular group. Your group presentations are ways of presenting the underlying ideas for the week, such as sketches, online quizzes, votes, talks, debates, competitions, *etc.* These presentations are not summaries of the readings, but build on the readings. Each group presentation will be for 15-20 minutes. The last 20 minutes of the class will be devoted to

peer commentary and questions about the themes. Students will give two presentations overall: One presentation in weeks 4-7, and a second presentation in weeks 8-12. Your goal is to present the ideas in the readings and go beyond the readings in an engaging, intelligent and interactive manner. We will help you design and refine your presentations. The Tuesday Creativity Presentation is your chance to fulfill a course requirement in a creative, interactive, but intellectually rigorous way. The goal is to engage the entire class in an active exploration of the underlying themes for that week. You can be critical, or complimentary, you can suggest elements that need to be changed. We, the GAs and professor, will meet with your group either in person or online, in *the week before* your groups' presentation to help you plan your presentation. You should make minimal, or even no use of Youtube, Powerpoint, Keynote, Prezzi, or similar presentation tools--They are interactivity and creativity killers. Presentations will begin on week 4 (September 18). Each group will present twice in the course for 20 minutes, once before the midpoint and once after the midpoint. We will assign you to your group on September 9. Each group must submit a peer evaluation of their respective contributions to the presentation. Note that if one group member does not contribute to the group presentation that person will receive a zero for their presentation. Short discussion Relations

### **Two Theme Papers**

Every three weeks you will submit (through Canvas) a 2-3 page theme paper (double-spaced) in which you will write on the underlying themes of the two weeks of readings. A guide on how to write the Theme papers, and the rubrics for theme paper grading will be posted on ELMS. There are three theme papers due. You must hand in all three theme papers by the due date or you will lose the grade for that theme paper. Examples of a range of previous theme papers are posted on ELMS.

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

The final examination in this course is an essay that will be about a key topic in creativity that you choose has been covered in the course and/or is relevant to the course. A one paragraph proposal of what will be in your essay must be submitted through Canvas by Sunday November 11

## Overall Evaluation

- (1) Each group will give two Presentations. Each of presentations is worth 9% of your final grade. (Thus, together, the two presentations are worth 18% of your final grade). The group presentation grades are based on the content, creativity, clarity and persuasiveness of the presentation. All members of the group are expected to contribute equally to the presentations. and go beyond the readings bringing in new and relevant materials and ideas There are two parts to the grade, each individual in the group and the overall presentation itself.
- (2) On line participation grades. Four ELMS short Discussions 20%. (Each discussion worth 5%). Three students will participate in each discussion and will generate a conclusion to the assigned Topic. The Grade will be based on whether student participated in the discussion and relevance of the conclusion to the assigned topic.
- (2) Final Essay proposal (4%). This will be Due on November 11 at 11:59pm. The proposal should be one paragraph (roughly 8 to 10 lines) outlining the topic that you have chosen and the sources.
- (3) Final Examination Essay (20%). MSGE
- (4) Two Theme Papers, with each theme paper being worth 10% (20% of your final grade).
- (5) General in Class Participation Discussions Topic including final in-class discussion. The grade is a combination of attendance and participation. Note that for participation to occur you must be there! (18%).

One Quiz on ELMS. Short questions.

**University Policy on Undergraduate education can be found at <http://www.ugst.umd.edu/courserelatedpolicies.html>**

## Attendance, Climate & Electronics Policy

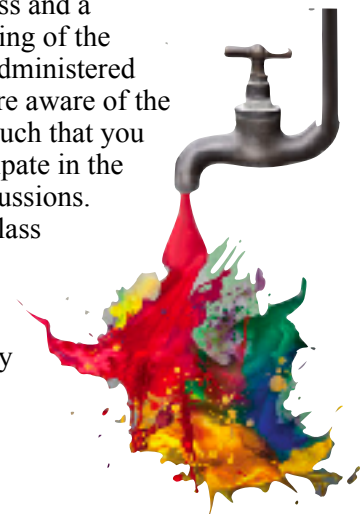
Students are expected to attend and actively participate in each class except in the case of illness or other extenuating circumstance. If missing class, students are responsible for obtaining additional notes from a classmate. Arrive on time and leave on time. Missed classes due to illness or university activities must be officially documented. Each class needs to start on time. Be respectful of your fellow students and be punctual. 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 or your phone is needed for a class activity. 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 in-class activity for that day. If this becomes a persistent issue in the class, then a no-technology policy will be instituted

## 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 <http://www.studenthonorcouncil.umd.edu/whatis.html>. 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.

**Readings** – A collection of PDFs are posted on ELMS-CANVAS. This means 2-3 readings per week, depending on length of the articles. All articles must be read **before** class and a short quiz at the beginning of the Tuesday class *may* be administered to make sure that you are aware of the details of the readings such that you can productively participate in the class activities and discussions. This leads to better in class discussions and more a more fulfilling learning experience. Additional readings may be assigned during the course.





**Week 1**, Tuesday August 28, Thurs August 30.  
Introduction to the Course & Overview of  
schedule and 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**, September 4 & 6: 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.
- B: Brandt, A., & Eagleman, D.(2018, August 20) Under the Hood of Creativity. in Time Special Edition: The Science of Creativity. pp 25-35.

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**Week 3**, September 11, 13. The brain and creativity

- 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.
- C: Kluger, J. (2018). This is your brain on creativity. In Time Special Edition: The Science of Creativity. pp 11-17.

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**Week 4** September 18 20. Development of Creativity in Children. **Presentation Sept 20.**

- 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, 21–32B: Russ, S.W. (2016).
- C: Kim, K.H. (2011). The Creativity Crisis: The Decrease in Creative Thinking Scores on the Torrance Tests of Creative Thinking. *Creativity Research Journal*, 23, 285-295.

**Week 5**, September 25 & 27: Mental Illness, Creativity Neuroscience. **Presentation 2**

- A. Mula, M Hermann, B, Trimble, M.R (2016). Neuropsychiatry of creativity. *Epilepsy & Behavior*, 57, B, 225–229.
- B. Lindell, A.K., & Kidd, E. (2011). Why Right-Brain Teaching is Half-Witted: A Critique of the Misapplication of Neuroscience to Education. *Mind, Brain, & Education*, 5, 121-127.
- C. Arehart-Treichel, J. (2012). Genes May Be Missing Link Between Creativity, Mental Illness. *Psychiatric News*. Published online: January 20, 2012

**Theme Paper 1 due September 28**

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**Week 6**, October 2 & 4 Group Presentation 3  
**Gender and Creativity**

- 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: Gruwal, D. (2014). *The Creativity Bias against Women*. *Scientific American*, December 8
- C: Boxer, S. (2016). *An era for women artists*. *The Atlantic*. <https://www.theatlantic.com/magazine/archive/2016/12/move-over-michelangelo/505826/>

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**Week 7**, October 9 & 11 Creativity in Science Group **Presentation 4**

- A. Sawyer, K. (2012). Chapter 20 (Science). In Sawyer. K., *Explaining Creativity*. Oxford University Press, New York: NY. Pp 337-388.
- B. Ossola, A. (2014). Scientists are more creative than you think *The Atlantic Magazine*
- C Lehrer, J. (2010). *The Neuroscience of Screwing up*. *Wired Magazine*

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**Week 8**, October 16 & 18: Processes Underlying Creativity Group **Presentation 5**

- A: Dumas, D., & Dunbar, K. N. (2016). The Creative Stereotype Effect *PLOS One*

B: Ward, T. (2001). Creative Cognition, Conceptual Combination and the Creative Writing of Stephen R. Donaldson. *American Psychologist*, 56, 350-354

C: Metaphorical Thinking: Using Comparisons to Express Ideas and Solve Problems. *Mind Tools* article. [https://www.mindtools.com/pages/article/newCT\\_93.htm](https://www.mindtools.com/pages/article/newCT_93.htm)

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**Week 9**, October 23 & 25: Cooking, Food & Cuisine: A 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 Stier, M. (2011). Molecular gastronomy: Basis for a new culinary movement, or modern day alchemy? *International Journal of Contemporary Hospitality Management*. 22, 399-415.

C: Hart, H. (2014).. [Cataloging Creativity: Ferran Adrià Showcases 7 Years Of Culinary Art And Science](https://www.fastcompany.com/3027589/cataloging-creativity-ferran-adria-showcases-7-years-of-culinary-art-science) *Fast Company*. March 19. <https://www.fastcompany.com/3027589/cataloging-creativity-ferran-adria-showcases-7-years-of-culinary-art-science>

**Theme paper 2 due on October 21st**

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**Week 10**, October 30, & November 1.

Computers, Smartphones and AI **presentation 7**

A: Fitzgerald, T., Goel, A., Thomaz, A. (2016). Human-Robot Co-Creativity: Task Transfer on a Spectrum of Similarity

B: Dorhmel, L. (2018). Truly Creative AI is just around the Corner. *Digital Trends* Jan 8. <https://www.digitaltrends.com/cool-tech/artificial-intelligence-creativity-future/>

C: Ward et al. (2017). Brain Drain: The Mere Presence of One's Own Smartphone Reduces Available Cognitive Capacity. and Maarten W. Bos, *Journ of tAssociation for Consumer Research*, 2 (April 2017): 140-154. Read Intro & Discussion

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**Week 11** November 6, & 8 Language, Culture & Creativity **Presentation 8**

A: Hommel, B., et al. (2011). Bilingualism and creativity: benefits in convergent thinking come

with losses in divergent thinking. *Frontiers in Psychology*. 10 November 2011 | <https://doi.org/10.3389/fpsyg.2011.00273>

B: Florida, R. (2003). Cities and the Creative class. *City and Community*, 2, 1, 3-19.

C: Boon, W. (2017) Creative Destruction The meaning of creativity from both a Western and Eastern point of view. Summary of Defining Creativity by W. Boon 14 February 2017 -

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**Week 12** Nov 13 & 15, Creativity and Music before and in the 21<sup>st</sup> century **Presentation 9**

A: Levitin, D. (2011). In search of the musical mind.. *Cerebrum* 2, 31-49

B: Draper, P. (2009). How online social networks are redefining knowledge, power, 21<sup>st</sup> century music-making and higher education. *Journal of Music Research Online*

C: *Mason, W. (2017) Three Iconic Musicians on Artistic Creation and Its Importance Now, Beck, Kendrick Lamar and Tom Waits articulate the creative impulse. New York Times, March 5.*

**Theme paper 2. Due November 18**

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**Week 13**, November 20 & 22:

Overview of final Essay & Thanksgiving

November 20. Overview of final essay components

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**Week 14**, November 27 & 29: Creativity gone bad:

Malevolent Creativity **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.

C. Mirsky, S. (2012). Creativity's Dark Side: Dan Ariely on Creativity, Rationalization and Dishonesty December 25 podcast.

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**Week 15**, December 4 & December 6 **In Class**

**discussion What is 21<sup>st</sup> century discussion** Creativity is?

December 4. Putting Creativity Together: What are the underlying mechanisms of creativity? This will be included in the in class discussion grade.

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

SUMMARY of rubrics for presentations, theme papers and final essay proposal. A more detailed set of rubrics will be posted on ELMS closer to the due dates

**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.

*1. Content- 30 pts.*

Discuss ideas that are addressed in the readings and new ideas that extend the ideas in the readings. Don't summarize, use different examples not in the readings. Make connections. Discuss possible implications for this research or the way in which creativity is explored. Ask new questions about creativity

*2. Demonstration or activities- 40 pts.*

Engage the class led discussions, divide class into subgroups to work on an issue relevant to the readings. Don't use general questions asked to the class ask different questions to different groups. Persuasiveness—try to convince the class of the validity of the arguments that you are making. Support your argument with good examples and or research.

*3. Originality- 30 pts.*

Be creative in how you present your ideas (i.e., create a quiz, use different types of media, create a skit, etc.) Go beyond the readings in making links with outside readings/articles/ideas.

**Two Theme papers -**

These are 2-3 pages. double-spaced (100 points). The Theme Papers have 4 components

- (i). What are the underlying questions, themes or assumptions made about creativity across the readings?
- (ii) Integration of some of the themes in the readings and lectures
- (iii.) What is your own view on this topic?
- (iv )Discuss an idea not mentioned in the readings that you feel is relevant to the topic or Discuss possible consequences or implications of the themes in the readings..

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

November 11. Here you state what your topic will be and what type (s) of evidence you will use to support your thesis. One to two paragraphs double spaced 12

point font. Examples of proposals will be posted on ELMS. 4 percent of the final grade

**Final Essay.Due dates:**

for 9:30 class Dec 6 to Dec 13.

for 2:00pm class rom Dec 6 to Dec 15.



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. There should be a cover page (with your name, email address, on it as well as the title of your essay), and references with 8 to 10 references. The cover page will not be included in the page count. The essay must be submitted via Canvas no later than the due dates. Examples of final essays will be posted on ELMS. Note that one of the goals of I courses is to write clearly and succinctly. You must stay within the page limits. Remember that computers eat files, so always keep a backup copy of the essay. REFERENCES FROM WIKIPEDIA, DICTIONARY.COM, Encyclopedias, or or NON PEER-REVIEWED JOURNAL, OR INTERNET SITES are are discouraged. .

**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%	

