

University of Colorado, Colorado Springs
Center for Cognitive Archaeology
ANTH 4310/5310: Cognitive Evolution

Instructor: Professor Frederick L. Coolidge, PhD

Email: fcoolidg@uccs.edu

Phone: 719-255-4146

Fax: 719-255-4166

Instructor: Professor Thomas Wynn, PhD

Email: twynn@uccs.edu

Phone: 719-255-3126

Fax: 719-255-4166

This course examines the evolution of human cognition using evidence from neuropsychology and archaeology. Traditionally, these two fields of study have shared little in the way of theory or methods, yet both provide crucial pieces to the puzzle of human cognitive evolution. We (and you) will attempt some coordination. To do this, you must be willing to acquire some unfamiliar facts, jargon, and perspectives fairly rapidly and with an open mind.

Books

All undergraduate students are required to read one book over the course of the semester:

Coolidge, F. L., & Wynn, T. (2009). *The rise of Homo sapiens: The evolution of modern thinking*. Hoboken, NJ: Wiley-Blackwell.

Each of these books will be assigned for a particular lesson, but it would be a good idea to get started on them well before they are actually assigned.

Readings

The other readings have been chosen from journal articles and book chapters, and they will be made available on Blackboard.

Exams

There are 15 tests, a test for each week, comprised of multiple-choice and some essay-response questions. Each multiple-choice question counts equally (1 or 2 points each); the essay-response questions are worth more (10 points). The exams comprise all (100%) of the undergraduate grade in the course. For graduate credit, the exams count 75% and a 10–15 page (APA format) term paper, on a pre-approved topic, counts 25%.

Grading Policy, Criteria, and Scale

Your grade will be determined by weekly exams, each of which will cover chapters from the textbook and selected readings. Your final grade will be determined by the number of points that you receive out of a possible 300 points, noting that the bottom 10% in each category may be awarded a minus, and the top 10% in each category may be awarded a plus.

| Lesson | Topic | Test Points |
|---------------|---|--------------------|
| 1 | Introduction: Two great leaps in cognition | 20 |
| 2 | Development and plasticity of the brain | 20 |
| 3 | Hemispheres and lobes of the brains | 20 |
| 4 | The limbic system and other subcortical substructures, handedness, and senses | 20 |
| 5 | The Working Memory model | 20 |
| 6 | Episodic memory; prospective memory and auto-noetic thinking; Theory of Mind | 20 |
| 7 | Brain evolution; the methods, theories, and accomplishments of neuropsychology and palaeolithic archaeology | 20 |
| 8 | Primates | 20 |
| 9 | Early hominins | 20 |
| 10 | Early hominins (continued) | 20 |
| 11 | <i>Homo erectus</i> | 20 |
| 12 | The first major leap in cognition: The tree-to-ground sleep transition | 20 |
| 13 | <i>Homo heidelbergensis</i> and the beginnings of modern thinking | 20 |
| 14 | The rise and fall of Neandertals | 20 |
| 15 | The second major leap in cognition: Enhanced working memory and the evolution of modern thinking | 20 |
| TOTAL | | 300 |

As an **undergraduate** student, your final grade will be determined by the number of points that you receive out of a possible 300 points on the quizzes:

| | |
|---|----------------|
| A | 270–300 Points |
| B | 239–269 Points |
| C | 224–238 Points |
| D | 209–223 Points |
| F | 000–208 Points |

As a **graduate** student, your final grade will be determined by the number of points that you receive out of a possible 400 (300 points on the quizzes, plus 100 points awarded for the research paper):

| | |
|---|----------------|
| A | 360–400 Points |
| B | 319–359 Points |
| C | 299–318 Points |
| D | 279–298 Points |
| F | 000–278 Points |

Reading

Week Reading

- 1 *The Rise of Homo sapiens*, Chapter 1
Coolidge and Wynn, 2001-Executive functions of the frontal lobes
- 2 Kalat, Ch. 5, pp. 122–140
- 3 *The Rise of Homo sapiens*, Chapter 2 (pp. 7–19)
- 4 *The Rise of Homo sapiens*, Chapter 2 (pp. 19–34)
- 5 *The Rise of Homo sapiens*, Chapter 3
Coolidge and Wynn, 2005-WM, EF, modern thought
- 6 Tulving, 2002-Episodic memory
Schacter & Addis, 2007-Cog NS of constructive memory
Buckner and Carroll, 2007-Self-projection and the brain
Call and Tomasello, 2008-Does the chimpanzee have ToM
- 7 *The Rise of Homo sapiens*, Chapter 4
Wynn, 2002-Archaeology and cognitive evolution
Wynn, 2009- Hafted spears and the archaeology of mind
Wynn and Coolidge, 2010-Beyond symbolism and language
- 8 *The Rise of Homo sapiens*, Chapter 5
- 9 *The Rise of Homo sapiens*, Chapter 6
- 10 Wynn et al., 2011-“An Ape’s View of the Oldowan” Revisited
- 11 *The Rise of Homo sapiens*, Chapter 7
Wynn, 202-Archaeology and cognitive evolution (focus on argument about *Homo erectus* spatial cognition)
- 12 *The Rise of Homo sapiens*, Chapter 8
Revonsuo, 2000-The reinterpretation of dreams
Franklin and Zyphur, 2005-The role of dreams in the evolution of the human mind

- 13 *The Rise of Homo sapiens*, Chapter 9
Thieme, 1997-Lower Palaeolithic hunting spears
Wilkins, 2012-Evidence for early hafted hunting technology
- 14 *The Rise of Homo sapiens*, Chapter 10
Hayden, 2012-Neandertal social structure
Zilhao et al, 2010-Symbolic use of marine shells and mineral pigments
- 15 *The Rise of Homo sapiens*, Chapter 11
Henshilwood & Dubreuil, 2011-Still Bay & Howiesons Poort, 77-59 ka
Wadley et al, 2009-Implications for complex cognition from the hafting of tools

Extra Credit

Extra credit is not offered in this course.

Graduate Requirements

Graduate students will complete a 10–15 page research paper on a topic approved by the professors by the specified due date.

Due Dates and Deadlines

The syllabus in Blackboard contains the deadline for each unit and specifies the dates by which the test must be completed. For each deadline, you have until 11:59 PM on the deadline day. Remember, these are DEADLINES. You are encouraged to stay well ahead of these deadlines. The sooner you complete the work, the sooner you'll be done with the course.

You must complete each unit by the specific date in the Blackboard version of the syllabus. Once that date has passed, you can still access the material in the unit, but you can no longer take the test associated with that unit. For example, if Unit 3 must be completed by Thursday, September 16, if you don't take Test 3 by 11:59 PM on September 16, you will receive a 0 for that test.

Drs. Coolidge & Wynn's Expectations of You

During completion of this course, you must abide by the [UCCS Student Conduct Code](#). This code specifies what is considered proper and improper student conduct, including matters such as cheating and inappropriate behavior. Students who do not abide by the code can receive sanctions ranging up to expulsion from the course or the university.

Remember that this is a 3 credit-hour course. Please plan on spending a lot of time working on just this class. This time will include reviewing lesson plans, completing online lectures, reading from your textbook, answering practice problems, verifying your work, and completing test. We suggest that you plan to spend at least 10 hours per week on average.

Of course, the amount of time spent does not guarantee you any particular grade. Your letter grade will reflect the amount of material that you learned, as reflected in your test scores and the overall quality of your contributions to the course.

Solving Technical Difficulties

When you're having technical difficulties (pages not loading, connectivity problems, not able to view images, things not working as they should, etc.), please contact the Blackboard Helpdesk toll-free at 877.654.8309 or online at the [UCCS Blackboard Support](#) page. The Blackboard Helpdesk is available 24 hours a day, 7 days a week. Please note this service is separate from the [UCCS IT Helpdesk](#).

Help Understanding Course Material

When you have questions regarding course policies, grading criteria, test administration, or course content, please email your professors for assistance.