

IN SEARCH OF ICE AGE AMERICANS

Neither Columbus nor the Vikings were the first to discover North America: it was instead distant ancestors of Native Americans, who arrived here at least ~15,000 years ago, when the earth was in the waning grip of an Ice Age. Ascertaining just who these people were, where they came from, when and how they got here, and how they adapted to their new landscape has proven challenging – and at times highly controversial. The goals of this course are to develop an understanding of the peopling of the Americas and, more broadly, how that understanding is being developed across multiple disciplines including archaeology, genetics, glacial geology, linguistics, and physical anthropology. Upon successfully completing this course, you will be able to:

- Identify the major changes in North American climate and environment through the Ice Age;
- Explain our current understanding of the first Americans' origins, antiquity and adaptations;
- Understand and critically assess different disciplinary approaches to this complex issue.

There are no pre-requisites for the course.

If you entered under the **University Curriculum** (2016-2020), this course provides the following: Foundations/Ways of Knowing (KNW); Depth/Natural and Applied Sciences (NAS); Proficiencies & Experiences/Information Literacy (IL); and, Proficiencies & Experiences/Human Diversity. If you entered under the newer **Common Curriculum** (Fall 2020), you can check off items for Breadth/Exploring Science (ES), and Proficiencies/Writing (W).

The course format is primarily lecture, which will cover the weekly topics, raise key and controversial issues, illustrate the evidence we're talking about (there will be lots of PowerPoint images), and where feasible I will bring in archaeological and geological specimens. I'll also fill you in on some of the gossipy trash and the behind-the-scenes battles that have taken place. As you will learn, debate over the peopling of the Americas can get downright cranky.

In addition, there will be readings from my *First peoples in a New World: populating Ice Age America* (be sure you get the 2021 second edition from Cambridge University Press), along with 1-3 articles from scientific journals (available in Canvas under *Readings – Articles*). The book will provide the background for the lectures; the journal articles will give you the opportunity to explore specific topics in depth, and in several instances hear from others who take different – even antagonistic – positions from mine.

Your responsibilities are threefold:

- To do the assigned **readings**, both from *First peoples in a New World*, and from the journal articles. With the journal articles, you are asked to provide ~2-3 questions/comments worthy of discussion. Please submit these on Canvas by **5 PM** the day before the relevant lecture (Canvas: *Assignments*). That will allow me to go over them in advance, to ensure yours get answered – whether through a direct Canvas reply, or in class the next morning. Your questions/comments are worth up to 2.5 points, for a maximum of 50 points. I am generous here so long as the questions/comments are thoughtful (and not, say, “what is the definition of _____”). Of the 23 classes for which there are assigned journal articles, you'll want to do at least 20 to gain the maximum. Recognizing you are not experts in reading that literature, I provide briefings that put them in the context of what we are covering in class, and point out key issues and questions being addressed.
- To display your knowledge on **three exams**. These will occur on **September 21, October 26, and December 11**. The last exam, on the scheduled final exam day, is non-cumulative. All exams will be at the usual class time, **8:00 AM** and on paper. Mark your calendars now so as not to miss these gala events! The exams will be a mix of formats, including T/F, Multiple Choice, Brief Identification, and Essay. Prior to each exam I will provide a list of important terms, concepts, sites, etc. (Canvas: *Exam reviews*). In the past I have held an optional evening review session prior to each exam. I am happy to do so again. If more convenient, it can be done on zoom.

- Finally, to prepare a **research paper** of no less than 12 and no more than 15 double-spaced pages. The paper must be on a course-related topic, make good use of the relevant course material, and be on a topic of mutual agreement – this to allow me to get you going on the right path, recommend sources, and help you as needed. There are three deadlines along the way: you must get approval for your topic by **October 3**. You must submit an Annotated Bibliography of 8-10 sources on the topic by **October 19**. As a special *optional* service, I will accept a draft of your paper on **November 14**, and read and return it in 2-3 days with suggestions for improvement. This service is provided at no charge: I am not grading the paper, only offering ideas on how you can better it and, potentially, your grade. The paper will be due the last day of class, **November 30**. Late papers will be penalized ½ letter grade each day they are late. More on the paper, including a list of possible topics, information on format, writing hints, etc., are on Canvas (*Research Paper Materials*).

The relative weight of the work in calculating your grade will be as follows:

| Requirement | % | Points | Sum of points | Grade¹ |
|--|-------------|-------------------|----------------------|--------------------------|
| Readings questions (up to 2.5 pts each) | 10% | 50 points | 450-500 points | A |
| Exam I | 20% | 100 points | 400-449 points | B |
| Exam II | 20% | 100 points | 350-399 points | C |
| Exam III | 20% | 100 points | 300-349 points | D |
| Research paper (125 points) + Annotated bibliography (25 points) | 30% | 150 points | <299 points | F |
| Total | 100% | 500 points | | |

My policy on missed exams is to give a make-up if the absence was unavoidable. A note from the SMU Health Center, your doctor, or advisor (as appropriate) is required.

Masks are required in this course. This masking policy is subject to change during the semester, and any changes will be posted clearly in Canvas announcements. If you have any health related concerns (especially possible exposure to Covid) please do not come to class; instead, follow SMU's Covid protocols: <https://www.smu.edu/Coronavirus/Healthy-Campus>.

If you require an academic accommodation for a disability please register with the DASS office (www.smu.edu/Provost/ProvostOffice/SAES/StudentSupport/SASP/Services/DASS). Once registered, please send me the DASS Accommodation Letter, and we will make the appropriate arrangements. Please note that accommodations are not retroactive and require advance notice to implement.

For anticipated absences (religious observance or officially sanctioned, scheduled University extra-curricular activities), just let me know in advance, and we can discuss acceptable ways of making up any work missed because of the absence.

SMU prohibits the possession of any dangerous weapon (openly or in a concealed manner), on all University property: http://www.smu.edu/BusinessFinance/Police/Weapons_Policy.

In all class work you are expected to follow the SMU Honor Code. Do not use ChatGPT or like software under any circumstances. If you have any questions about the Honor Code, see www.smu.edu/StudentAffairs/StudentLife/StudentHandbook/HonorCode.

My office hours are TuTh 12:30-2:00 PM, but it is not a problem if you need to see me on another time or day. Feel free to email (dmeltzer@smu.edu) or phone me (214 768-2826), and we'll set up a time to meet (virtually, or in person). Please see me if you need help or want to talk about any course related matters. Please pay attention to your SMU email, as that and Canvas announcements will be the means by which I will contact you.

¹ With a plus [+] or minus [-] assigned to the top/bottom 10 points of the A-D range

| CLASS | TOPICS AND READINGS: |
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| August 22 (Tuesday) | Course introduction & An archaeology primer Background: <i>First peoples in a new world</i> , Chapter 1, pages 1-18 |
| August 24 (Thursday) | From Africa to the Americas: human evolution and worldwide dispersal Background: <i>First peoples in a new world</i> , Chapter 1, pages 18-22 <ul style="list-style-type: none"> Liu, Y. et al. (2021) Insights into human history from the first decade of ancient human genomics. <i>Science</i> 373:1479-1484. |
| August 29 (Tuesday) | No class – at 8 AM I will be somewhere over Greenland en route back from Europe |
| August 31 (Thursday) | Ice Ages and glaciers Background: <i>First peoples in a new world</i> , Chapter 2, pages 23-37 <ul style="list-style-type: none"> Lambeck et al. (2014) Sea level and global ice volumes from the Last Glacial Maximum to the Holocene. <i>PNAS</i> 11:15296–15303. Pedersen, M. et al. (2016) Postglacial viability and colonization in North America’s ice-free corridor. <i>Nature</i> 537:45-49. |
| September 5 (Tuesday) | Climates and environments of Ice Age North America Background: <i>First peoples in a new world</i> , Chapter 2, pages 37-57 <ul style="list-style-type: none"> Wunsch, C. (2010) Toward understanding the Paleocene. <i>Quaternary Science Reviews</i> 29:1960-1967. |
| September 7 (Thursday) | The Great Paleolithic War Background: <i>First peoples in a new world</i> , Chapter 3 (entire) |
| September 12 (Tuesday) | The pre-Clovis controversy ... and its resolution Background: <i>First peoples in a new world</i> , Chapter 4, pages 90-119 <ul style="list-style-type: none"> <i>Discovering Archaeology</i> (1999) Special Report: Monte Verde revisited. November/December. |
| September 14 (Thursday) | Have we found the footprints of the first Americans? Background: <i>First peoples in a new world</i> , Chapter 4, pages 119-130 <ul style="list-style-type: none"> Bennett, M. et al. (2021) Evidence of humans in North America during the last glacial maximum. <i>Science</i> 373:1528–1531. Oviatt, C. (2022) A critical assessment of claims human footprints in the Lake Otero basin, New Mexico date to the Last Glacial Maximum. <i>Quaternary Research</i> 1-10. |
| September 19 (Tuesday) | Where do we stand today? ... and catch-up/review <ul style="list-style-type: none"> Becerra-Valdivia and Higham (2020) The timing and effect of the earliest human arrivals in North America. <i>Nature</i> 584:93–97 Potter, B. et al. (2021) Current understanding of the earliest human occupations in the Americas: Evaluation of Becerra-Valdivia & Higham (2020). <i>PaleoAmerica</i> 1–15. |
| September 21 (Thursday) | EXAM I |
| September 26 (Tuesday) | Echoes of the past Background: <i>First peoples in a new world</i> , Chapter 5, pages 131-142 <ul style="list-style-type: none"> Campbell, L. (1988) Review of “Language in the Americas,” by Joseph H. Greenberg. <i>Language</i> 64:591-615. Greenberg, J.H. (1989) Classification of American Indian Languages: a reply to Campbell. <i>Language</i> 65:107-114. |
| September 28 (Thursday) | Tales from teeth Background: <i>First peoples in a new world</i> , Chapter 5, pages 142-148 |

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| | <ul style="list-style-type: none"> • Scott, G.R. et al. (2018) Sinodonty, Sundadonty, and the Beringian Standstill model: Issues of timing and migrations into the New World. <i>Quaternary International</i> 466:233-246. |
| October 3 (Tuesday) | <p>Talking heads Background: <i>First peoples in a new world</i>, Chapter 5, pages 148-157</p> <ul style="list-style-type: none"> • von Cramon-Taubadel, N. et al. (2017) Evolutionary population history of early Paleoamerican cranial morphology. <i>Science Advances</i> 3: e1602289 <p><i>Research paper topic due</i></p> |
| October 5 (Thursday) | <p>Ancestral genes Background: <i>First peoples in a new world</i>, Chapter 5, pages 157-165</p> <ul style="list-style-type: none"> • Mathieson, I. and A. Scally A (2020) What is ancestry? <i>PLoS Genetics</i> 16(3):e1008624. |
| October 10 (Tuesday) | No class – Fall break! |
| October 12 (Thursday) | <p>Ancient and modern DNA and the peopling of the Americas Background: <i>First peoples in a new world</i>, Chapter 5, pages 165-173</p> <ul style="list-style-type: none"> • Willerslev, E. and D.J. Meltzer (2021) Peopling of the Americas as inferred from ancient genomics. <i>Nature</i> 594:356–64 |
| October 17 (Tuesday) | <p>Reconciling archaeological/non-archaeological evidence Background: <i>First peoples in a new world</i>, Chapter 6 (entire)</p> <ul style="list-style-type: none"> • Johannsen, N. et al. (2017) A composite window into human history. <i>Science</i> 356:1118-1120. |
| October 19 (Thursday) | <p>Entering new landscapes: challenges and constraints Background: <i>First peoples in a new world</i>, Chapter 7 (entire).</p> <ul style="list-style-type: none"> • Kelly, R. and L. Todd (1988) Coming into the country: early Paleoindian hunting and mobility. <i>American Antiquity</i> 53:231-244. <p><i>Research paper annotated bibliography due</i></p> |
| October 24 (Tuesday) | <p>Modeling population movements ... and catch-up/review</p> <ul style="list-style-type: none"> • Anderson, D. & J.C. Gillam (2000) Paleoindian colonization of the Americas: implications from an examination of physiography, demography, and artifact distribution. <i>American Antiquity</i> 65:43-66. • Moore, J. & M. Moseley (2001) How many frogs does it take to leap around the Americas? Comments on Anderson and Gillam. <i>American Antiquity</i> 66:526-529 |
| October 26 (Thursday) | EXAM 2 |
| October 31 (Tuesday) | <p>Clovis: Origins and overview Background: <i>First peoples in a new world</i>, re-read Chapter 6, pages 176-179, and Chapter 8, pages 226-242</p> <ul style="list-style-type: none"> • Bradley, B. & D. Stanford (2004) The North Atlantic ice-edge corridor: a possible Palaeolithic route to the New World. <i>World Archaeology</i> 36:459-478. • Straus, L., D. Meltzer, & T. Goebel (2005) Ice Age Atlantis? Exploring the Solutrean-Clovis 'Connection.' <i>World Archaeology</i> 37:506-531. |
| November 2 (Thursday) | <p>Megafaunal extinctions: murder or climatic mayhem? Background: <i>First peoples in a new world</i>, Chapter 8, pages 243-255</p> <ul style="list-style-type: none"> • Grayson, D.K. and D.J. Meltzer (2003) Requiem for North American overkill. <i>Journal of Archaeological Science</i> 30:585-593. • Fiedel, S. and G. Haynes (2004) A premature burial: comments on Grayson and Meltzer's 'Requiem for overkill.' <i>Journal of Archaeological Science</i> 31:121-131 |

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| | <ul style="list-style-type: none"> • Grayson, D.K. and D.J. Meltzer (2004) North American overkill continued? <i>Journal of Archaeological Science</i> 31:133-136 |
| November 7 (Tuesday) | <p>A closer look at Clovis and Clovis-age sites west to east Background: <i>First peoples in a new world</i>, Chapter 8, pages 255-267</p> <ul style="list-style-type: none"> • Jennings, T. and A. Smallwood (2019) The Clovis record. <i>SAA Archaeological Record</i> 19:45-50. |
| November 9 (Thursday) | <p>Did the Pleistocene end with a bang? Background: <i>First peoples in a new world</i>, Chapter 2, pages 53-55</p> <ul style="list-style-type: none"> • Boslough, M. et al (2012) Arguments and evidence against a Younger Dryas impact event. In <i>Climates, Landscapes and Civilizations</i>, P. Clift, ed., pp. 13-26. Geophysical Monograph Series 198, American Geophysical Union. • Firestone, R. et al. (2007) Evidence for an extraterrestrial impact 12,900 years ago that contributed to the megafaunal extinctions and the Younger Dryas cooling. <i>PNAS</i> 104:16016-16021. |
| November 14 (Tuesday) | <p>Paleoindian occupations of the Great Plains and Rocky Mountains, Part I Background: <i>First peoples in a new world</i>, Chapter 9, pages 268-289 Optional: Submit a draft of your research paper for comment</p> |
| November 16 (Thursday) | <p>Paleoindian occupations of the Great Plains and Rocky Mountains, Part II</p> <ul style="list-style-type: none"> • Bement, L. (2007) Bonfire Shelter: A jumping off point for comments for Byerly et al. <i>American Antiquity</i> 72:366-372 • Byerly, R. et al. (2005) On Bonfire shelter (Texas) as a Paleoindian bison jump: an assessment using GIS and zooarchaeology. <i>American Antiquity</i> 70:595-629. • Byerly, R. et al. (2007) A further assessment of Paleoindian site-use at Bonfire Shelter. <i>American Antiquity</i> 72:373-381. |
| November 21 (Tuesday) | <p>Late Paleoindian occupation of the High Arctic Background: <i>First peoples in a new world</i>, Chapter 9, pages 289-292</p> <ul style="list-style-type: none"> • Goebel, T. & B. Potter (2016) First traces: Late Pleistocene settlement of the Arctic. In <i>The prehistoric Arctic</i>, T. Friesen & O. Mason, eds. Oxford University Press. • Smith, H. & T. Goebel (2018) North to Alaska: the origins and spread of fluted-point technology in the Canadian 'Ice-free Corridor' and Eastern Beringia. <i>PNAS</i> 115:4116-4121 |
| November 23 (Thursday) | No class – Thanksgiving! |
| November 28 (Tuesday) | <p>Late Paleoindian occupation of the eastern Woodlands Background: <i>First peoples in a new world</i>, Chapter 9, pages 292-304</p> <ul style="list-style-type: none"> • Lothrop, J. et al. (2011) Paleoindians and the Younger Dryas in the New England-Maritimes region. <i>Quaternary International</i> 242:546-569. • Smallwood, A. et al. (2018) Expressions of ritual in the Paleoindian record of the eastern woodlands: exploring the uniqueness of the Dalton Cemetery at Sloan, Arkansas. <i>Journal of Anthropological Archaeology</i> 49:184-198. |
| November 30 (Thursday) | <p>The consequences of contact... and catch-up/review Background: <i>First peoples in a new world</i>, Chapter 10, pp. 307-333</p> <ul style="list-style-type: none"> • Bardill, J. et al. (2018) Advancing the ethics of paleogenomics. <i>Science</i> 360:384-385. • Cortez, A. et al. (2021) An ethical crisis in ancient DNA research: Insights from the Chaco Canyon controversy as a case study. <i>Journal of Social Archaeology</i> 21:157-78. • Milner, G. (2015) Population decline and culture change in the American midcontinent: bridging the prehistoric and historic divide. In <i>Beyond germs: Native depopulation in North America</i>, C. Cameron et al., editors, pp. 50-73. • Submit your research paper |

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| December 11 (Monday) | FINAL EXAM – 8:00-11:00 AM |
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