

## IN SEARCH OF ICE AGE AMERICANS

It is widely accepted that the first Americans arrived here over 12,000 years ago, when the earth was in the waning grip of an Ice Age. But ascertaining who these colonists were, where they came from, when and how they got here, and how they adapted to their new landscape has proven challenging – if not highly controversial. The primary goals of this course are to develop an understanding of the peopling of the Americas. Given the inherently interdisciplinary nature of the topic this requires attention to a variety of scientific fields: you will learn about and critically assess how that understanding is being developed across multiple disciplines including archaeology, glacial geology, linguistics, molecular biology 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 current understanding of the origins, antiquity and adaptations of the first Americans;
- Demonstrate the ability to use interdisciplinary approaches for understanding complex issues.

There are no pre-requisites for the course; there is, however, considerable reading to do, so be prepared.

I approach the peopling of the Americas from my perspective as an archaeologist, though the book we'll use, my *First peoples in a New World: colonizing Ice Age America*, attempts to cover this broad interdisciplinary landscape. Whether it does so successfully or not, I will let others (you included) judge. There are other readings as well (available on Canvas) that cover additional ground and bring you up to date on issues and evidence that has changed in the years since *First peoples* appeared – especially in ancient DNA and genomics, paleoenvironments, and craziness about comets clobbering the earth. Virtually all of the readings come straight from the professional scientific literature; a number of them were selected to give you an opportunity to hear from others who take different – even antagonistic – positions to mine.

I recognize that few of you are likely to be expert in the disciplinary literature we'll be reading. To help prepare you for what is on tap I have also posted on Canvas tips on *Reading the professional literature*.

The course format is primarily lecture. I will be responsible for introducing the topics, discussing salient issues, examining and illustrating the evidence (there will be lots of images; the PowerPoints will be posted at the end of each week on Canvas), and addressing questions you may have. In addition, I'll fill you in on some of the gossipy trash and behind-the-scenes battles that have taken place (debate over the peopling of the Americas has gotten downright ugly at times). You will be responsible for doing the readings, and for asking questions and raising points you think worthy of discussion.

As this is an honors section, I don't feel the need to harp on the importance of attendance. If on occasion you are running late show up anyway. I'd rather you arrive late than not at all (though habitual tardiness will be noted). If you must miss a class, get the notes from a classmate, then see me if you have questions.

The majority of your grade will be based on your performance on **two exams**: an in-class midterm on **March 9** and a final on **May 16** at the officially scheduled exam time, **11:30 AM**. 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 Identifications, and Essay(s). The final exam is *not* cumulative. Prior to each exam I will provide a list of important terms, concepts, sites, etc. In the past I have held an optional review session in the evening a day or so prior to the exam. I am happy to do so again this semester.

The remainder of your grade will be based on a **research paper** of no less than 15 and no more than 20 double-spaced pages in 10 or 12 point type with 1" margins. References, tables, and figures are not included in the page limit (and please place any tables and figures *after* the literature cited, rather than in the text). The paper must be on a course-related topic and on a topic of mutual agreement – this to allow

me to get you going on the right path, recommend sources and help you along as needed. Your topic must be approved by **March 9**. Papers on topics without prior approval will be penalized a full letter grade.

A handout on ~50 possible topics will be on Canvas, from which you can pick one or develop one not on that list. Additional information on format, details, helpful hints in writing, etc., are also on the handout. As a special – optional – service, I will accept outlines or drafts or your papers on **April 13**, then read and return them the following week 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. Otherwise, the hard deadline is the last day of class, **May 4** – then I grade the papers for real. Late papers will be penalized ½ letter grade each day they are late.

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

<b>Requirement</b>	<b>%</b>	<b>Points</b>	<b>Sum of points</b>	<b>Grade<sup>1</sup></b>
Mid-semester exam	30%	120 points	360-400 points	A
Final exam	30%	120 points	320-359 points	B
Research paper	35%	140 points	280-319 points	C
Participation	5%	20 points	240-279 points	D
<b>Total</b>	<b>100%</b>	<b>400 points</b>	<240 points	F

My policy on missed exams is to give a make-up if the absence was unavoidable. A note from your Advisor or Doctor (as appropriate) is required. As for other absences/scheduling complications:

**Disability Accommodations:** Students needing academic accommodations for a disability must first register with Disability Accommodations & Success Strategies (DASS). Students can call 214-768-1470 or visit <http://www.smu.edu/Provost/ALEC/DASS> to begin the process. Once registered, students should then schedule an appointment with the professor as early in the semester as possible, present a DASS Accommodation Letter, and make appropriate arrangements. Please note that accommodations are not retroactive and require advance notice to implement.

**Religious Observance:** Religiously observant students wishing to be absent on holidays that require missing class should notify their professors in writing at the beginning of the semester, and should discuss with them, in advance, acceptable ways of making up any work missed because of the absence.

**Excused Absences for University Extracurricular Activities:** Students participating in an officially sanctioned, scheduled University extracurricular activity should be given the opportunity to make up class assignments or other graded assignments missed as a result of their participation. It is the responsibility of the student to make arrangements with the instructor *prior* to any missed scheduled examination or other missed assignment for making up the work.

In all class work you are expected to follow the SMU Honor Code. If you have any questions about what that means, see [http://smu.edu/studentlife/PCL\\_05\\_HC.asp](http://smu.edu/studentlife/PCL_05_HC.asp). Violators will be prosecuted to the full extent of the law. If you have any questions about how to use source material properly, especially from the web, I strongly encourage you to consult *Writing with internet sources*, produced by Harvard's Expository Writing Program, a copy of which is in the Syllabus section on Canvas and at: [sites.harvard.edu/fs/docs/icb.topi500638.files/Writing\\_with\\_internet\\_sources.pdf](https://sites.harvard.edu/fs/docs/icb.topi500638.files/Writing_with_internet_sources.pdf). Another valuable resource is Gordon Harvey's *Writing with sources: a guide for students* (1995). Although written at the dawn of the web it is useful, inexpensive and handy.

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

Finally, my office hours are Wednesday & Friday 11:30-1:00 PM, but it is not a problem if you need to see me at another other time during the week. You can contact me by email (dmeltzer@smu.edu) or phone (214 768-2826), and we'll set up a time to meet. My office is in the Heroy Building, 4<sup>th</sup> floor, room 442. Please see me if you need help or want to talk about any course related matters.

*Please put your cell phones on silent or turn them off when you get to class.*

<b>CLASS</b>	<b>TOPICS AND READINGS:</b>
January 24 (Tuesday)	<b>Course introduction</b>
January 26 (Thursday)	<b>Getting to Beringia on time</b> <i>First peoples</i> reading: Chapter 1
January 31 (Tuesday)	<b>The landscape of colonization I: glaciers, climates &amp; environments of Ice Age North America</b> <i>First peoples</i> reading: Chapter 2
February 2 (Thursday)	<b>The landscape of colonization II: the end of the Ice Age in North America</b> Additional readings: <ul style="list-style-type: none"> <li>• Broecker, W.S. et al. (2010) Putting the Younger Dryas cold event into context. <i>Quaternary Science Reviews</i> 29:1078-1081.</li> <li>• Carlson, A. (2013) The Younger Dryas climate event. <i>Encyclopedia of Quaternary Science</i> 3:126-134.</li> <li>• Pedersen, M. et al. (2015) Postglacial viability and colonization in North America's ice-free corridor. <i>Nature</i> 537:45-49.</li> <li>• Wunsch, C. (2010) Toward understanding the Paleoecean. <i>Quaternary Science Reviews</i> 29:1960-1967.</li> </ul>
February 7 (Tuesday)	<b>The Great Paleolithic War</b> <i>First peoples</i> reading: Chapter 3
February 9 (Thursday)	<b>From Paleoliths to Paleoindians</b> <i>First peoples</i> reading: finish Chapter 3 if you haven't already
February 14 (Tuesday)	<b>The pre-Clovis controversy ...</b> <i>First peoples</i> reading: Chapter 4 Additional readings: <ul style="list-style-type: none"> <li>• Guidon, N. and A-M. Pessis (1996) Falsehood or untruth? <i>Antiquity</i> 70:408-421.</li> <li>• Haynes, C.V. (1969) The earliest Americans. <i>Science</i> 166:709-715.</li> <li>• Leakey, L. et al. (1968) Archaeological excavations in the Calico Mountains, California: preliminary report. <i>Science</i> 160:1022-1023.</li> <li>• Meltzer, D.J., J.M. Adovasio, and T.D. Dillehay (1994) On a Pleistocene human occupation at Pedra Furada, Brazil. <i>Antiquity</i> 68:695-714.</li> <li>• Parenti, F. et al. (1996) Pedra Furada in Brazil and its 'presumed' evidence: limitations and potential of the available data. <i>Antiquity</i> 70:422-427</li> </ul>
February 16 (Thursday)	<b>... and its resolution</b> Additional readings: <ul style="list-style-type: none"> <li>• Adovasio, J. &amp; J. Page (2002) <i>The first Americans: in pursuit of archaeology's greatest mystery</i>. Random House, New York. Chapters 8 and 9 [only]</li> <li>• Dillehay, T. et al. (1999) On Monte Verde: Fiedel's confusions and misrepresentations. <a href="http://www.uky.edu/Projects/MonteVerde">http://www.uky.edu/Projects/MonteVerde</a></li> </ul>

	<ul style="list-style-type: none"> <li>• Fiedel, S. and others (1999) Special Report: Monte Verde revisited. <i>Discovering Archaeology</i>, November/December.</li> <li>• Meltzer, D.J. et al. (1997) On the Pleistocene antiquity of Monte Verde, southern Chile. <i>American Antiquity</i> 62:659-663.</li> </ul>
February 21 (Tuesday)	<p><b>Echoes of the past: reconstructing the peopling of the Americas from language</b>  <i>First peoples</i> reading: Chapter 5, pages 137-148.</p> <p>Additional readings:</p> <ul style="list-style-type: none"> <li>• Campbell, L. (1988) Review of "Language in the Americas," by Joseph H. Greenberg. <i>Language</i> 64:591-615.</li> <li>• Greenberg, J.H. (1989) Classification of American Indian Languages: a reply to Campbell. <i>Language</i> 65:107-114.</li> <li>• Greenberg, J. (1993) Observations concerning Ringe's 'Calculating the factor of chance in language comparison. <i>Proceedings of the American Philosophical Society</i> 137:79-90.</li> <li>• Ringe, D. (1993) A reply to Professor Greenberg. <i>Proceedings of the American Philosophical Society</i> 137:91-109.</li> </ul>
February 23 (Thursday)	<p><b>Telltale teeth and bones? Lessons from skeletal remains of Ice Age Americans</b>  <i>First peoples</i> reading: Chapter 5, pages 148-155.</p>
February 28 (Tuesday)	<p><b>Cracking heads</b>  <i>First peoples</i> reading: Chapter 5, pages 170-181.</p> <p>Additional readings:</p> <ul style="list-style-type: none"> <li>• Chatters, J. et al. (2014) Late Pleistocene human skeleton and mtDNA link Paleoamericans and modern Native Americans. <i>Science</i> 344:750-754.</li> <li>• Jantz, R.L. &amp; D. Owsley (2001) Variation among early North American crania. <i>American Journal of Physical Anthropology</i> 114:146-155.</li> <li>• Meltzer, D.J. (2015) Kennewick Man: coming to closure. <i>Antiquity</i> 89:1485-1493.</li> <li>• Neves, W.A. &amp; M. Hubbe (2005) Cranial morphology of early Americans from Lagoa Santa, Brazil: implications for the settlement of the New World. <i>PNAS</i> 102:18309-18314.</li> <li>• Rasmussen, M. et al. (2015) The ancestry and affiliations of Kennewick man. <i>Nature</i> 523:455-458.</li> </ul>
March 2 (Thursday)	<p><b>Ancestral genes: using DNA to reconstruct Native American population history</b>  <i>First peoples</i> reading: Chapter 5, pages 155-170</p> <p>Additional readings:</p> <ul style="list-style-type: none"> <li>• Matisoo-Smith &amp; Horsburgh (2012) <i>DNA for archaeologists</i>, Chapter 2, pp. 21-58 (available on Canvas).</li> </ul>
March 7 (Tuesday)	<p><b>Molecular archaeology</b></p> <p>Additional readings:</p> <ul style="list-style-type: none"> <li>• Malhi, R. et al. (2007) Mitochondrial haplogroup M discovered in prehistoric Americans. <i>Journal of Archaeological Science</i> 34:642-48</li> <li>• Mulligan, C. et al. (2008) Updated three-stage model for the peopling of the Americas. <i>PLoS ONE</i> 3(9):e3199.</li> <li>• Raghavan, M. et al. (2015) Genomic evidence for the Pleistocene and Recent population history of Native Americans. <i>Science</i> 349:841, aab3884-1-aab3884-10</li> <li>• Rasmussen, M. et al. (2014) The genome of a late Pleistocene human from a Clovis burial site in western Montana. <i>Nature</i> 506:225-229.</li> <li>• Skoglund P. &amp; D. Reich (2016) A genomic view of the peopling of the Americas.</li> </ul>

	<i>Current Opinion in Genetics &amp; Development</i> 41:27-35.
March 9 (Thursday)	<b>MIDTERM EXAM</b>
March 14 – 16 (Tuesday)	<b>Spring Break – no class!</b>
March 21 (Tuesday)	<b>Entering new landscapes: challenges and constraints</b> <i>First peoples</i> reading: Chapter 7
March 23 (Thursday)	<b>Modeling population movements</b> Additional readings: <ul style="list-style-type: none"> <li>• Anderson, D. and 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.</li> <li>• Erlandson, J. et al. (2007) The Kelp Highway hypothesis: Marine ecology, the coastal migration theory, and the peopling of the Americas. <i>Journal of Island and Coastal Archaeology</i> 2:161-174.</li> <li>• Moore, J. and 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</li> <li>• Surovell, T. (2003) Simulating coastal migration in New World colonization. <i>Current Anthropology</i> 44:580-591.</li> </ul>
March 28 (Tuesday)	<b>Clovis Part I: Origins and overview</b> <i>First peoples</i> reading: Chapter 8 Additional readings: <ul style="list-style-type: none"> <li>• Bradley, B. &amp; D. Stanford (2004) The North Atlantic ice-edge corridor: a possible Palaeolithic route to the New World. <i>World Archaeology</i> 36:459-478.</li> <li>• Bradley, B. &amp; D. Stanford (2006) The Solutrean-Clovis connection: reply to Straus, Meltzer and Goebel. <i>World Archaeology</i> 38:704-714.</li> <li>• Eren, M.I., R.J. Patten, M.J. O'Brien and D.J. Meltzer (2013) Refuting the technological cornerstone of the Ice-Age Atlantic crossing hypothesis. <i>Journal of Archaeological Science</i> 40:2934-2941.</li> <li>• Straus, L., D. Meltzer, &amp; T. Goebel (2005) Ice Age Atlantis? Exploring the Solutrean-Clovis 'Connection.' <i>World Archaeology</i> 37:506-531.</li> <li>• Westley, K. &amp; J. Dix (2008) The Solutrean Atlantic hypothesis: a view from the ocean. <i>Journal of the North Atlantic</i> 1:85-98.</li> </ul>
March 30 (Thursday)	<b>No class – Work on your research papers!</b>
April 4 (Tuesday)	<b>Clovis Part II: Clovis sites, west to east</b> <i>First peoples</i> reading: Chapter 8 (if you haven't finished it)
April 6 (Thursday)	<b>Clovis Part III: Murder in the Pleistocene?</b> Additional readings: <ul style="list-style-type: none"> <li>• Byers, D. and A. Ugan (2005) Should we expect large game specialization in the late Pleistocene? An optimal foraging perspective on early Paleoindian prey choice. <i>Journal of Archaeological Science</i> 32:1624-1640</li> <li>• 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</li> <li>• Grayson, D.K. and D.J. Meltzer (2003) Requiem for North American overkill. <i>Journal of Archaeological Science</i> 30:585-593.</li> <li>• Grayson, D.K. and D.J. Meltzer (2004) North American overkill continued?</li> </ul>

	<p><i>Journal of Archaeological Science</i> 31:133-136</p> <ul style="list-style-type: none"> <li>• Haynes, G. (2007) A review of some attacks on the overkill hypothesis, with special attention to misrepresentation and doubletalk. <i>Quaternary International</i> 169–70:84–94.</li> </ul>
April 11 (Tuesday)	<p><b>Did the Pleistocene end with a bang?</b> Additional readings:</p> <ul style="list-style-type: none"> <li>• Firestone 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</li> <li>• Meltzer, D.J. et al. (2014) Chronological evidence fails to support claim of an isochronous widespread layer of cosmic impact indicators dated to 12,800 years ago. <i>PNAS</i> 111: E2162-E2171.</li> <li>• Pinter N, et al. (2011) The Younger Dryas impact hypothesis: A requiem. <i>Earth Sciences Review</i> 106:247–264</li> <li>• Wittke, J. et al. (2013) Evidence for deposition of 10 million tonnes of impact spherules across four continents 12,800 y ago. <i>PNAS</i> 110:2088-2097.</li> </ul>
April 13 (Thursday)	<p><b>Paleoindian occupations of the Great Plains and Rocky Mountains</b> <i>First peoples</i> reading: Chapter 9, pages 281-303</p>
April 18 (Tuesday)	<p><b>Paleoindian occupations of the Great Plains and Rocky Mountains, Part II</b></p> <ul style="list-style-type: none"> <li>• <b>Submit draft of your research paper (Optional)</b></li> </ul>
April 20 (Thursday)	<p><b>Late Paleoindian occupation of the High Arctic</b> <i>First peoples</i> reading: Chapter 9, 303-320</p>
April 25 (Tuesday)	<p><b>Late Paleoindian occupation of the eastern Woodlands</b> <i>First peoples</i> reading: Chapter 9, 303-320</p>
April 27 (Thursday)	<p><b>NAGPRA</b> discussion with Roger Echo-Hawk, Pawnee Nation Repatriation Historian</p>
May 2 (Tuesday)	<p><b>When past and present collide I</b> <i>First peoples</i> reading: Chapter 10 Additional readings:</p> <ul style="list-style-type: none"> <li>• Hitt, J. (2005) Mighty white of you: racial preferences color America's oldest skulls and bones. <i>Harper's Magazine</i>, July 2005.</li> <li>• Owsley, D. &amp; Jantz, R. (2001) Archaeological politics and public interest in Paleoamerican studies: lessons from Gordon Creek woman and Kennewick man. <i>American Antiquity</i> 66:565-575.</li> <li>• Swedlund, A. &amp; D. Anderson (1999) Gordon Creek woman meets Kennewick man: new interpretations and protocols regarding the peopling of the Americas. <i>American Antiquity</i> 64:569-576.</li> <li>• Swedlund, A. &amp; D. Anderson (2003) Gordon Creek woman meets Spirit Cave man: a response to Owsley and Jantz. <i>American Antiquity</i> 68:161-167.</li> <li>• Watkins, J. (2004) Becoming American or becoming Indian? NAGPRA, Kennewick and cultural affiliation. <i>Journal of Social Archaeology</i> 4:60-80.</li> </ul>
May 4 (Thursday)	<p><b>When past and present collide II</b></p> <ul style="list-style-type: none"> <li>• Catch up on lecture &amp; review for the final exam</li> <li>• <b>Submit your research paper</b></li> </ul>
May 16 (Tuesday)	<p><b>FINAL EXAM –11:30 AM – 2:30 PM</b></p>