

## **ANTH741 Metabolic Bone Disease**

**Fall Term:** Wednesday 9.00 am – 12 noon

**Instructor:** Dr. Megan Brickley

### **Calendar description:**

Metabolic bone diseases are linked to a wide range of socio-cultural factors and this course explores the way in which information on the current occurrence of these conditions contributes to understanding factors operating in past societies. Information used in the course is derived from both clinical sources on contemporary health problems and paleopathology. The course allows students to focus on issues linked to metabolic bone disease in either past or contemporary groups. Training in radiological and histological approaches will be provided for students who would like to gain practical skills.

### **Class Organisation**

The course is organized as a seminar and there will be no formal lectures by the course facilitator. The key text will be the *Bioarchaeology of Metabolic Bone Disease*, Brickley & Ives 2008. There will be no additional set readings and students will be expected to find at least two papers most weeks that can be used to contribute to class discussion. Papers should be uploaded to a Dropbox folder by noon on the day before the class. Each class on a topic will start with a fifteen minute introduction by an allocated member of the course to open discussion.

### **Evaluation**

Class participation, in-class discussion (20% of grade).

Research proposal and presentation on the research project (30% of grade split equally between the written proposal and presentation).

Research paper (50% of grade). Choice of final paper topics is open; projects can comprise anything along the spectrum from literature based research to practical lab based projects (subject to availability of sample material<sup>\*</sup>; training in lab based techniques will be provided for student who select this type of project). Students can select a project related to their own research interests as long as they fall broadly within the scope of the course.

### **Required Texts:**

Brickley, M. & Ives, R. (2008). *The Bioarchaeology of Metabolic Bone Disease*. Academic Press: San Diego. This book covers most conditions to be covered. It does not have a specific section on anemia and there is no coverage of diabetes. The instructor will provide sections on these subjects from the new edition of the book that should be in production at the time of the course.

<sup>\*</sup>I have limited quantities of archaeological/modern teeth and bone that could be available for suitable projects and also have a wide range of contacts. It may be possible to source sample material that would allow a pilot project on a topic for the final class paper. Obtaining suitable samples and permissions for project ideas students may have is not however guaranteed.

**Course Schedule:**

Week 1. Sept. 12	Introduction to the Seminar and Metabolic Bone Diseases. Discussion of Systems of classification.
Week 2. Sept. 19	Scurvy vitamin C deficiency.
Week 3. Sept. 26	Secondary Osteopenia and Osteoporosis.
Week 4. Oct. 3	Age-related bone loss.
Week 5. Oct. 10	No class this week, recess week.
Week 6. Oct. 17	Anemias & co-occurrence of conditions.
Week 7. Oct. 24	Vitamin D deficiency juveniles. 9am submission of research proposal.
Week 8. Oct. 31	Vitamin D deficiency adults.
Week 9. Nov. 7	Diabetes.
Week 10. Nov. 14	Paget's Disease, Pellagra and Fluorosis (I am open to suggestions for other conditions we could cover this week. Topic needs to be agreed by Feb. 23rd).
Week 11. Nov. 21	Investigative techniques used for assessment and diagnosis of metabolic diseases in clinical medicine and paleopathology.
Week 12. Nov. 28	Considering diet and nutrition in investigations of metabolic disease.
Week 13. Dec. 5	Review of findings. Students will present their preliminary findings for their research paper and get feedback prior to writing up their final paper.

Likely date of submission of the final paper 9am December 19<sup>th</sup> 2018 (to be confirmed).