ANAT607 Human Embryology - Summer 2012

Course director: Yusuke Marikawa, PhD (marikawa@hawaii.edu)  
Tel: 692-1411

Instructors: Dr. Yusuke Marikawa, Dr. Keith Fong,  
Dr. Vernadeth B. Alarcon

Credit: 2 credits

Schedule: May 22nd to June 28th  
Tuesday & Wednesday (lecture), 3 pm - 5 pm, BSB Room 222P  
Thursday (lab), 3 pm - 5pm (+ extra), BSB Room 167

Course objectives: Human Embryology is a lecture/lab course designed to develop an understanding of the essential aspects of human embryogenesis, and that many congenital malformations and birth defects arise from the misregulation of specific embryological events. The primary objectives are:

1. to learn a series of critical events that take place during embryo development to create the structurally and functionally intact human body
2. to understand the genetic, molecular and cellular basis of the mechanisms that regulate those critical embryological events, and learn how such important knowledge is obtained from studies using non-human model organisms
3. to learn how the recent advancement in genomic and reproductive technology has yielded new diagnostic methods, surgical procedures, and embryo manipulation tools
4. to discuss how such advancement has resulted in various issues that are of bioethical concerns


Evaluation and grading
- Written exams (mid-term and final) on lecture materials
- Attendance and participation in discussion
- Lab assessment will be based on demonstration of skills and final report
### Schedule (as of May 17, 2012; subject to further change)

**Lectures (BSB 222P)**

<table>
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<tr>
<th>Date</th>
<th>Topic</th>
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| May 22<sup>nd</sup> (Tue) | Introduction  
Overview of human embryology |
| May 23<sup>rd</sup> (Wed)   | Gametes and fertilization  
Placenta development |
| May 29<sup>th</sup> (Tue)   | Germ layer formation  
Construction of body architecture |
| May 30<sup>th</sup> (Wed)   | Development of central nervous system  
Neural crest development |
| June 5<sup>th</sup> (Tue)   | Mid-term exam |
| June 6<sup>th</sup> (Wed)   | Development of GI system and associated organs  
Demonstration of plastinated human fetus by Dr. Alarcon |
| June 12<sup>th</sup> (Tue)  | Heart development  
Lung development |
| June 13<sup>th</sup> (Wed)  | (Lab) |
| June 19<sup>th</sup> (Tue)  | Muscle and bone development  
Development of head and neck |
| June 20<sup>th</sup> (Wed)  | Kidney development  
Sex differentiation |
| June 26<sup>th</sup> (Tue)  | Human embryology and bioethics |
| June 27<sup>th</sup> (Thu)  | Final exam |
| June 30<sup>th</sup> (Sat)  | (Lab report deadline) |

**Embryology Laboratory**

*Every Thursday*  
(ANAT607 Laboratory; detailed schedule to be announced separately)