Syllabus– Perinatal and pediatric epidemiology

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<th>Module : 238</th>
<th>Perinatal and pediatric epidemiology</th>
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<tbody>
<tr>
<td>UE coordinator</td>
<td>Florence Bodeau-Livinec, MD, PhD</td>
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<td>Professor from EHESP, France</td>
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<td></td>
<td>INSERM U1153, Equipe de recherche en Epidémiologie Obstétricale, Périnatale et Pédiatrique (EPOPe) ; Centre de Recherche Epidémiologie et Biostatistique Sorbonne Paris Cité (CRESS)</td>
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<td>Adjunct Assistant Professor, New York University Medical Center, NY, USA</td>
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<td>Ecole des Hautes Etudes en Santé Publique (EHESP)</td>
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<td>Email: <a href="mailto:florence.bodeau-livinec@ehesp.fr">florence.bodeau-livinec@ehesp.fr</a></td>
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Dates November 13th to 17th 2017

Credits/ECTS 3 ECTS

Duration 5 days of 6 hours = 30 hours

UE description Perinatal and pediatric epidemiology’s goal is to monitor pregnancy and children’s health and to study determinants for poor outcomes in childhood.

DIFFERENT FIELDS INVOLVED:
This course is designed to provide an introduction to perinatal and pediatric epidemiology focusing on several areas important in this field: preterm birth, infectious diseases, developing countries, international comparisons of care and practices, birth defects, nutrition, childhood development and deficiencies. A broad overview of the field will be given discussing tools used during pregnancy and childhood.

EMPHASIS ON METHODS:
During this course, we will discuss epidemiologic methods. Different study designs will be studied and discussed during the week through seminars and articles. Epidemiological concepts will be reviewed with practical examples, including confounding, modification effect, multivariate analyses, study design, biases.

Prerequisites Introduction to Epidemiology

Course requirement Attendance in lectures, which will be as interactive as possible, is required. Attendance and active participation in tutorials and discussions are essential. If you have to miss a tutorial, please notify your tutor in advance. All absences must be justified to the class instructor. All supporting documents are provided to the end-of-year panel. Students who are more than 10 minutes late may be denied access to a class. Repeated late arrivals may be counted as absences.

Course learning objectives Students who complete this course will be able to:
- Discuss the key concepts in perinatal and pediatric epidemiology
- Apply epidemiologic tools and methodologies to understand determinants of perinatal and pediatric health
- Critically appraise and interpret the findings of perinatal and pediatric epidemiology papers
| UE Structure (details of sessions title/speaker/date/duration) | Day 1: Introduction and seminar on environmental issues  
Monday, 9h-12h and 13h-16h  
Day 2: Seminar on malaria in pregnancy. Lecture on twins and births defects.  
Tuesday, 9h-12h and 13h-16h  
Day 3: Seminars on growth in childhood on Global Health  
Wednesday, 9h-12h and 13h-16h  
Day 4: Seminar on preterm births, and lecture on Barker’s hypothesis and registers  
Thursday, 9h-12h and 13h-16h  
Day 4: Seminar on Pregnancy complications, and evaluation  
Friday, 9h-12h and 13h-16h |
| Course requirement | Three or four students will present and discuss one article every day chosen by the invited speaker. The article will be sent one week in advance. Studying articles from and chosen by these invited speakers will present an opportunity to discuss articles directly with these experts.  
Students will also work on an assignment. They will present their assignment on the last day of the week. One hour will be dedicated to explain this assignment at the beginning of the week. Students will learn to come with their own scientific ideas and to present appropriately their proposal.  
An exam will be given also.  
Grading:  
15% for the article presentation  
35% for the assignment  
50% for the exam |
<p>| Location | George Sand EHESP Campus in Paris |
| Readings | Some additional readings, mainly articles, will be posted on REAL prior to each lecture. |</p>
<table>
<thead>
<tr>
<th>Session Title</th>
<th>Introduction</th>
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<tr>
<td>Monday</td>
<td>Environment and Perinatal and Pediatric Epidemiology</td>
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**Speakers**

*Lecturer:* Florence Bodeau-Livinec, MD, MPH, PhD  
EHESP  
Florence.bodeau-livinec@ehesp.fr  
*Invited speaker:* Cécile Chevrier, Inserm, Team Epidemiological Research on Environment, Reproduction and Development

**Learning Objectives**

- Apply epidemiologic tools and methodologies in the field of perinatal and pediatric epidemiology  
- Discuss the key concepts related to environment  
- Critically appraise and interpret the findings of papers in this field

**Duration**

6 hours

**Training methods**

- 9 am-12: Morning: Presentation of the week, With the coordinator, review of the main concepts, literature review and methodological issues in the field of the day and lectures  
- 1-2 pm: work on assignment  
- 2-3 pm Invited speaker with discussion around the article and conference  
- 3-4 pm: A group of students will present an article from the invited speaker

<table>
<thead>
<tr>
<th>Session Title</th>
<th>Malaria in pregnancy</th>
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<td>Tuesday</td>
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**Speakers**

*Lecturer:* Florence Bodeau-Livinec, MD, MPH, PhD  
EHESP  
Florence.bodeau-livinec@ehesp.fr  
*Invited speakers:*  
Michel Cot, UMR 216, Mother and Child Health in the Tropics

**Learning Objectives**

- Apply epidemiologic tools and methodologies to understand determinants of perinatal and pediatric health  
- Critically appraise and interpret the findings of perinatal and pediatric epidemiology papers in the field of malaria in pregnancy

**Duration**

6 hours

**Training methods**

- 9 am-12: Morning: Presentation of the week, With the coordinator, review of the main concepts, literature review and methodological issues in the field of the day and lectures  
- 1-2 pm: work on assignment  
- 2-3 pm Invited speaker with discussion around the article and conference  
- 3-4 pm: A group of students will present an article from the invited speaker
<table>
<thead>
<tr>
<th>Session Title</th>
<th>Global health</th>
<th>Twins, Birth defects and Barker’s hypothesis</th>
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<tr>
<td>Wednesday</td>
<td><strong>Growth in childhood</strong></td>
<td><strong>Pediatric Epidemiology Preterm birth and Low birth Weight</strong></td>
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<td>Speakers</td>
<td><strong>Lecturer</strong>: Florence Bodeau-Livinec, MD, MPH, PhD EHESP <a href="mailto:Florence.bodeau-livinec@ehesp.fr">Florence.bodeau-livinec@ehesp.fr</a> <strong>Invited speaker</strong>: Jérémie Botton, Inserm U953, Team ORCHAD</td>
<td><strong>Lecturer</strong>: Florence Bodeau-Livinec, MD, MPH, PhD EHESP <a href="mailto:Florence.bodeau-livinec@ehesp.fr">Florence.bodeau-livinec@ehesp.fr</a> <strong>Invited speaker</strong>: Pierre-Yves Ancel, Inserm U953, Team Perinatal events: etiology and consequences on child development and maternal health</td>
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| Learning Objectives | - Understand key concepts related to global health in the field of pediatric and perinatal epidemiology, and growth in childhood  
- Discuss the key concepts in relation to preterm births and perinatal epidemiology  
- Apply epidemiologic tools and methodologies to understand determinants of perinatal and pediatric health  
- Critically appraise and interpret the findings of perinatal and pediatric epidemiology papers in the field of growth in childhood | - Understand key concepts related to twins, birth defects and barker’s hypothesis  
- Discuss the key concepts in relation to preterm births and perinatal epidemiology  
- Apply epidemiologic tools and methodologies to understand determinants of perinatal and pediatric health  
- Critically appraise and interpret the findings of perinatal and pediatric epidemiology papers in the field of clinical trial related to malaria in pregnancy |
| Duration            | 6 hours                         | 6 hours |
| Training methods    | 9 am-10: work on assignment  
10-11: seminar by FBL  
11-12: A group of students will present an article from FBL  
1-2 pm: work on assignment  
2-3 pm: Invited speaker with discussion around the article and conference  
3-4 pm: A group of students will present an article from the invited speaker |
### Training methods

- 9 am-10: work on assignment
- 10-11: seminar by Pierre-Yves Ancel
- 11-12: A group of students will present an article from Pierre-Yves Ancel
- 1-2 pm: work on assignment
- 2-4 pm Lectures on Barker’s hypothesis and register of impairment in childhood

### Session Title
**Thursday**

<table>
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<th>Session Title</th>
<th>Pregnancy complications</th>
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<td><strong>Evaluation</strong></td>
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### Speakers

- **Lecturer:** Florence Bodeau-Livinec, MD, MPH, PhD
- EHESP
- Florence.bodeau-livinec@ehesp.fr
- **Invited speaker:** Stephanie Engel

### Learning Objectives

- Discuss the key concepts in perinatal and pediatric epidemiology related to pregnancy complications (preeclampsia)
- Critically appraise and interpret the findings in this field

### Duration

6 hours

### Training methods

- 9 am-10: seminar by Stephanie Engel
- 10-11: A group of students will present an article from Stephanie Engel
- 11-12: Overall discussion with Stephanie Engel
- 1-4 pm: assignments presentations. Jury: FBL and Stephanie Engel.