Course Description
Vietnam and other countries of Southeast Asia have experienced massive economic and population growth during the recent decades. This growth was brought about by increased economic and social freedom which has led to a more affluent Vietnamese population which demands more food, water, sewage/waste disposal, and energy. Unfortunately, these demands are quickly consuming the natural resources and trading off the environmental quality of Vietnam consequently health problems of local residents.
This course consists topics which describe the phenomenon the current social, political, and environmental aspects of Viet Nam, and the water resource, atmospheric pollution, soil and plastic risk, environmental contamination and food safely affecting the local human health. Students will also join out door (field trip) activities including visiting an industrial park and a domestic waste water treatment plant in Hochiminh City. Besides, other excursions (e.g. to Mekong Delta, Cambodia, provinces in Northen and Central Vietnam ) that students will experience would contribute to their knowledge and view points about the environmental situation human health in Vietnam.
Students will present topics relating to environmental problems or human health related to environmental pollution and food safety in Vietnam, and suggest potential measures to overcome these problems. They will also undertake written assignments associated with a field trips as mentioned above

Outcome and Objectives
The learning outcome of this course is an understanding of environmental situation and issues, anthropogenic emission and local human health in relation to living conditions (e.g. environment and food) as these partly reflect the economic development and trade-off in Vietnam. This includes recent development as well as historical events.

Upon completion of this course, students are expected to achieve the following learning objectives:

- Know the general environmental situation and issues in contemporary Vietnam
- Understand how Vietnam is currently balancing the need for economic growth and environmental trading-off and community health challenges
- Interact with people and institutions involved in efforts to improve or maintain the quality of the environment in Vietnam
- Develop a well-informed opinion about the environmental problems that Vietnam is facing and how these problems might be solved

Academic Honesty
Academic honesty is an expression of interpersonal justice, responsibility and care, applicable to Loyola University faculty, students, and staff, which demands that the pursuit of knowledge in the university community be carried out with sincerity and integrity. The School of Education’s Policy
on Academic Integrity can be found at: http://www.luc.edu/education/academics_policies_integrity.shtml. For additional academic policies and procedures refer to: http://www.luc.edu/education/academics_policies_main.shtml

Requirements and Expectations
Students should participate in both classroom discussions and out-of-class requirements. There is no required textbook for this class.

Grades will be based on the following breakdown:

**Attendance**
- Keeping a journal of your experience in Vietnam (tours to Central & Northern Vietnam, Mekong Delta and Cambodia)------30%
- Field trip reflection from visit in Hochiminh City (excursions to two wastewater treatment plants) -----------------20%
- Final student poster/ presentation -----------------------------30%

**Assignment Details**

**Attendance expectation:** Students are expected to attend all class meetings. In the case of medical related absences, a hospital or a doctor note is needed. Make-up assignments will be determined on the case-to-case basis.

**Experience Journal:** Within 3 days (72h) after every excursion (to Mekong Delta, Cambodia, Central and Northern Vietnam, wastewater treatment plants) students are required to submit a journal entry electronically by email. The topic of your journal entries should address environmental issues, human health potential problems related to environmental issues or a new perspective that you have obtained in Vietnam. Your journal entries should contain your thoughts about what you experience, read about, or talk with your classmates. You should include photos of things, references, and conversation with local people where appropriate.

**Field Trip Reflection** from visit in Hochiminh City (the wastewater treatment plant, an industrial zone, environmental pollution in situ): Students will write reports that will be due the following week. This report will help students prepare for the in-class reflection and discussion following the field trip.

**Moderate a classroom discussion:** At the end of each lecture, there will be a classroom discussion on the humans and environmental issues associated with that class. One or two students will be responsible for facilitating one of these discussion sessions. The moderator should pose about 2 – 3 questions to the class and give a short explanation about why the questions are important. The questions could be from the readings (book/ media/ paper...) or the in-class presentation. The moderator(s) could use additional videos, pictures, tables, and graphs stating key facts and data about the question in order to encourage a productive discussion. The lecturer will provide the students with slides of presentation and information about the lecture ahead of time for information.
The ultimate goal is to encourage a positive productive classroom conversation about the humans and environmental issues that respect the opinions of both sides of the debate when possible.

**Final Poster of independent research project:** Students will carry out an *independent investigation* involving a topic relating to *the human health and/or environmental problems in Vietnam*. The problems could be that we have discussed in class or that the students themselves have observed in Ho Chi Minh City or on the field trip. This poster can be a printout from PowerPoint/pdf file (on A0 size paper). Each poster should demonstrate an in-depth understanding of the problem(s) the students have chosen but also propose detailed solutions (plans of actions) to the chosen problem. Students will also send the poster (e.g. pdf file) to lecturer which will be used as a reference for evaluation (re-evaluation)

Note that your journal entries can be used for information or as part of this Final Poster. Final poster presentation will be on April 17 & 24th 2019. The pdf file of the poster should be sent to Dr. Son by email **before April 8th** (for printing).

Rubrics for final poster is as followed: *(note that: the evaluation of each poster presentation will be implemented by 2 students and one lecturer (Dr. Son), based on the rubrics)*

<table>
<thead>
<tr>
<th>EVALUATIVE DIMENSION</th>
<th>“A”</th>
<th>“B”</th>
<th>“C”</th>
<th>“D/F”</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GRADE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Exploration</strong></td>
<td>The poster has a focused research topic. This topic is explored with original observations such as surveys, interviews, or scientific measurement. The approach to investigation is sound and supported by accurate background information.</td>
<td>The poster has focused research topic. A plan is available to gather information. Few errors in background information.</td>
<td>The poster has a poor research topic. Approach to investigation is under-developed. Some errors in background information.</td>
<td>The poster doesn't have a research topic or dispersed topic. Insufficient or no plan to support the analysis. Inaccurate background information.</td>
</tr>
<tr>
<td><strong>Analysis</strong></td>
<td>Quality of gathered data is high combined with sufficient evidence of environmental/human issues such as pictures and data from other sources. Data analysis such as graphs and figures is accurate.</td>
<td>Quality of gathered data is high but contains some errors. Some evidence of environmental/human issues. Data analysis such as graphs and figures is accurate.</td>
<td>Quality of gathered data is low. Some evidence of environmental/human issues. Data analysis such as graphs and figures contain many errors.</td>
<td>Poor or no self-gathered data. Poor evidence of environmental/human issues. Insufficient data analysis.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D/F</th>
</tr>
</thead>
</table>
### Evaluation

Accurate and meaningful conclusion accompanied with two or more of the following points:
- Trouble shooting / overcome challenges;
- Link or relate to US or worldwide problem / global view;
- Suggest a possible solution to the problem;
- A balanced comparison between different perspectives.

<table>
<thead>
<tr>
<th>Conclusion</th>
<th>Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conclusion is accurate but lack depth. One of the points listed in column A.</td>
<td>Information is presented clearly and concise. The poster presentation is aesthetically pleasing and effective.</td>
</tr>
<tr>
<td>Conclusion is inaccurate or not supported by the analysis. One of the points listed in column A.</td>
<td>Information is presented clearly. The poster presentation is sufficient.</td>
</tr>
<tr>
<td>Conclusion is inaccurate or not supported by the analysis. None of the points listed in column A.</td>
<td>Information is disorganized and difficult to follow.</td>
</tr>
</tbody>
</table>

### Course Calendar:
Class will take place every Wednesday afternoon, from 14:00 – 16:30 pm. The weeks with yellow highlighted indicate that students will not have a dicussion in class, in stead they will have an excursion and submit a field report/ reflection thereafter. Notes that, the order of the discussed topics may be changed in case of unexpected incidents happening to invited lecturers; and students will be informed before the change.

<table>
<thead>
<tr>
<th>Week/ Date</th>
<th>Proposed activities/ topics</th>
<th>Proposed lecturers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>One</strong> 14 – 20 Jan</td>
<td>Eutrophication situation in Vietnam: causes, effects and consequences and potential mitigation means</td>
<td>Dr. Son, Bach Khoa Uni. (Wed. 16 Jan)</td>
</tr>
<tr>
<td><strong>Two</strong> 21 – 27 Jan</td>
<td>The current situation of agriculture and aquaculture farming systems in the Mekong Delta, Vietnam</td>
<td>Dr. Da, An Giang Uni. (Wed. 23 Jan)</td>
</tr>
<tr>
<td><strong>Three</strong> 28 Jan–3 Feb</td>
<td>Introduction to Vietnam: Geological history, Climate and Topography.</td>
<td>Dr. Tu, Bach Khoa Uni. (Wed. 30 Jan)</td>
</tr>
<tr>
<td><strong>Four</strong> 4 – 10 Feb</td>
<td>No class (Tet/ lunar new year holiday in Vietnam)</td>
<td></td>
</tr>
<tr>
<td><strong>Five</strong> 11 – 17 Feb</td>
<td>Contaminants from local human emission (industrial, agricultural and medical center activities) in Vietnam and potential impacts on human beings</td>
<td>Dr. Son, Bach Khoa Uni. (Wed. 13 Feb)</td>
</tr>
<tr>
<td><strong>Six</strong> 18 – 24 Feb</td>
<td>Cambodia excursion</td>
<td>with Loyola Staff</td>
</tr>
</tbody>
</table>
| Seven  
25 Feb–3 Mar | Air pollution in cities of Vietnam: current situation and potential solutions for mitigation | Dr. Bang, IER  
(Wed. 27 Feb) |
| Eight  
4 – 10 Mar | Field trip to a domestic wastewater treatment plant (Binh Hung Hoa, in Saigon) | Dr. Son, Bach Khoa Uni.  
(Wed. 6 Mar) |
| Nine  
11 – 17 Mar | Soil erosion in Mekong Delta (Dr. Khoi)  
Plastic problems (Dr. Son) | Dr. Khoi, University of Science; Dr. Son, Bach Khoa Uni.  
(Wed. 13 Mar) |
| Ten  
(Wed. 20 Mar) |
| Eleven  
25 – 31 Mar | Northern-Central Vietnam excursion | with Loyola Staff |
| Twelve  
1 – 7 Apr | Field trip to an industrial wastewater treatment system (Tan Thuan industrial park, in Saigon) | Dr. Thanh & Dr. Son, Bach Khoa Uni.  
(Wed. 3 Mar) |
| Thirteen  
8 – 14 Apr | Health care and health problems in relation to environmental pollution and food safety in Vietnam | Dr. Dang, Medical Center  
(Wed. 10 Apr) |
| Fourteen  
15 – 21 Apr | Poster presentation (7 presentations per day/ 20 min for each presentation, discussion & evaluation) | Each student will have one presentation (Wed. 17 Nov) |
| Fifteen  
22 – 27 Apr | Poster presentation (7 presentations per day/ 20 min for each presentation, discussion & evaluation) | Each student will have one presentation (Wed. 24 Dec) |

Required readings: need to be completed before each class. Readings are available in the class booklet (to be updated later).