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| 科目名 | Course Title |
| 地球環境科学(Environmental Earth Sciences) | |
| 学科・専攻 | Department/Program |
| G30 All program | |
| 受講年次 | Grade |
| 3rd | |
| 授業形態 | Class style |
| 必修・選択の別 | Compulsory or Elective |
| 講義 | * See "Remarks" |
| 時間割コード | Registration code |
| 0683030 | |
| 開講期・曜日・時限 | Semester, Day & Period |
| 春学期 金 : 1 | |
| 単位数 | Credit |
| 2 | |
| 科目区分 | Course type |
| 担当教員 | Instructor |
| HUMBLET Marc Andre | (HUMBLET Marc Andre) |
| 所属研究室 | Laboratory |
| Department of Earth and Planetary Sciences, Geobiology Group | |
| 連絡先 | Contact |
| Phone: 052-789-3037 / E-mail: humblet.marc@f.mbox.nagoya-u.ac.jp | |
| 居室 | Room |
| Science building E, 516 | |

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| 講義の目的とねらい | Course purpose |
| <p>Never before have had humans such a profound impact on the environment. The world population exceeds 7 billion and is growing steadily. Industrial and technological needs for energy and mineral resources are increasing every year. This course aims to review and discuss how humanity is changing the environment. More specifically, the course examines how human activities alter major biogeochemical cycles, and explores past climate change and the relationships between human activities and climate today. Students also learn about the nature and usefulness of geological resources and the environmental threats posed by their extraction and exploitation. The course not only aims to develop a scientific knowledge of important environmental issues, but also to promote the critical evaluation of information sources and the exchange of opinions in class.</p> | |
| 履修要件 | Prerequisite |
| There is no prerequisite for this course. | |
| 履修取り下げの方法について | How to Apply for Course Withdrawal |
| <p><「履修取り下げ届」提出の要・不要 Necessity/Unnecessity to submit "Course Withdrawal Request Form"> <条件等 Conditions> A student who wishes to withdraw from the course needs to submit a Course Withdrawal Request Form by the end of May in order to receive an "Absent" grade. This deadline does not apply to students who drop the class part-way through for an exceptional reason (e.g., illness, accident).</p> | |
| 成績評価 | Grading |
| <p>Students will be graded following the five-step S-A-B-C-F grade evaluation system. S: 90-100%, A: 80-89%, B: 70-79%, C:60-69%, F: 59-0% Two quizzes: 20% (10% each) Two short reports: 20% (10% each) Oral presentation: 20% Written essay: 40%</p> | |

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| 不可 (F) と欠席 (W) の基準 | Criteria for "Absent(W)" & "Fail" grades |
| An "Absent (W)" grade is given to students who have officially withdrawn from the class by the end of May and to students who have withdrawn from the class for an exceptional reason (e.g., illness, accident). A "Fail" grade is given to students who withdraw from the class without meeting the aforementioned criteria and to student who have a final grade of 0-59%. | |
| 関連する科目 | Related courses |
| The content of this course is more closely linked to biology- and earth science-related courses. | |
| 教室 | Class room |
| Check the Course Timetable. Science building A, classroom A408 | |

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| 到達目標 | Goal |
| By the end of the course, students should be able to understand and explain the subjects covered in class. Students will also be required to search information on topics of their choice and relevant to the course content, analyze the information they have found, and present and discuss their findings in class. | |

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| 授業内容 | Content |
| <ol style="list-style-type: none"> 1. Introduction 2. Environmental Earth Sciences: general concepts 3. Earth cycles 1: Nitrogen cycle 4. Earth cycles 2: Phosphorus cycle 5. Earth cycles 3: Water cycle 6. Earth cycles 4: Carbon cycle 7. Past, present, future climate change 8. Geological Resources: Energy, Rocks, and Minerals <p>Two quizzes aim to evaluate students' understanding of the course content. In addition, students should fulfill the following assignments: (1) two short presentations on current news related to environmental sciences, (2) an essay/review paper, and (3) an oral presentation</p> | |

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| 教科書 | Textbook |
| There is no required textbook for this course. Please refer to the recommended reading list below for interesting books related to the course content. | |

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| 参考書 | Recommended reading |
| <p>Anderson, D.E., Goudie, A.S., and Parker, A.G., 2013. Global environments through the Quaternary: exploring environmental changes. Second edition, Oxford University Press, 406 pages.</p> <p>Schlesinger, W.H. and Bernhardt, E.S., 2013. Biogeochemistry: an analysis of global change. Third edition, Elsevier, 672 pages.</p> <p>Ruddiman, W.F., 2013. Earth's climate: past and future. Third edition, Freeman, 464 pages.</p> <p>Craig, J.R., Vaughan, D.J., Skinner, B.J., 2011. Earth resources and the environment. Fourth edition, Pearson, 508 pages.</p> | |

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| 連絡方法 | Contact method |
| There are no specific office hours for personal consultation outside class time. However, students are encouraged to make an appointment by e-mail beforehand. | |

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| その他 | Remarks |
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*See Course List and Graduation Requirements for your program for your enrollment year.
Due to the current COVID-19 pandemic, the course may be given entirely online or consist of both online and in-class lectures depending on the number and location of students attending and the specific measures taken by Nagoya University and Aichi Prefecture to slow the spread of infections.