



SYLLABUS

Teaching Unit: UED 1.2

Subject: Science and Technology Careers Pathways 2

Semester: S2

Coefficient: 01

Total Weekly Hours: 22h30

- Lecture (Hours per week): 1h30

Language of Instruction: English

Academic Year: 2024/2025

Credits : 01

Course Instructor: Benchana Mohamed Amine **Title :** MCB

Office : BE3-41

E-mail : benchana.mohamedamine@univ-guelma.dz

Course Objectives:

The objective of this course is to introduce students, in a first step, to the various fields covered by the domain of Science and Technology. In a second step, it aims to present a wide range of careers that these fields lead to. In the same context, this course introduces students to the new challenges of sustainable development and the emerging careers that may arise from it.

Contenu de la matière :

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| 1. Fields of Industrial Hygiene and Safety (HSI) and Mining Engineering | (2 Weeks) |
| 2. Fields of Climate (HVAC) Engineering and Transportation Engineering | (2 Weeks) |
| 3. Fields of Civil Engineering, Hydraulics, and Public Works | (2 Weeks) |
| 4. Field of Aeronautics, Mechanical Engineering, Maritime Engineering, and Metallurgy | (2 Weeks) |
| 5. Approaches for Sustainable Production | (2 Weeks) |
| 6. Measuring the Sustainability of a Process/Product/Service | (2 Weeks) |
| 7. Sustainable Development and Business | (3 Weeks) |

Student Personal Work for This Course:

- **Group/Pair Work:** Reading articles on sustainable development and/or reports of high-performing and sustainable companies and summarizing the main actions undertaken in the field of sustainable development.

Examples of Documents for Reading and Synthesis:

- **Case of ONA and ENIEM:** Kadri, Mouloud, 2004, Sustainable Development, Business, and ISO 14001 Certification, Market and Organizations vol. 1 (No. 8), pp. 201–251 (Available online: <http://www.cairn.info/revue-marche-et-organisations-2009-1-page-201.htm>)
- **Mireille Chiroleu-Assouline:** Sustainable Development Strategies of Companies. Idées, The Review of Economic and Social Sciences, CNDP, 2006, pp. 32–34 (Available online: <http://halshs.archives-ouvertes.fr/hal-00306217/document>)

- Webpage on TOTAL's Environmental and Social Commitments:
<https://www.total.com/fr/engagement>
- PSA Group's Sustainable Mobility Innovations: <http://www.rapportannuel.groupe-psa.com/rapport-2015/engagements/dessolutions-innovantes-pour-des-transports-durables/>

Evaluation Method:

Exam: 100 %.

References :

1. V. Maymo et G. Murat, The Toolbox of Sustainable Development and CSR - 53 Tools and Methods, Edition : Dunod, 2017.
2. P. Jacquemot and V. Bedin, The Encyclopedic Dictionary of Sustainable Development, Edition: Sciences Humaines, 2017.
3. Y. Veyret, J. Jalta et M. Hagnerelle Sustainable Developments: All the Challenges in 12 Lessons, Edition: Autrement, 2010.
4. L. Grisel et Ph. Osset, Life Cycle Analysis of a Product or Service: Applications and Practice, 2nd Edition: AFNOR, 2008.
5. Sh. Shaked, N. Jolliet-Gavin, P. Crettaz, M. Saadé-Sbeih et O. Jolliet, Life Cycle Analysis: Understanding and Conducting an Ecobalance, 3rd Edition: PPUR, 2017.
6. G. Pitron et H. Védrine, The War of Rare Metals: The Hidden Side of the Energy and Digital Transition, Edition: Liens qui libèrent, 2018.
7. Careers in Environment and Sustainable Development, Collection: Parcours, Edition: ONISEP, 2015.

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