

Maquette des enseignements de M1 S7

Introduction	6
<i>Transport de matière</i>	2,5
<i>Dynamique des systèmes</i>	1
Characterization and properties of vegetal biomass	2,5

Méthodes	6
<i>Méthodes numériques</i>	4
<i>Statistiques appliquées</i>	2

Génie des Procédés I	6
<i>TP initiation au génie des procédés</i>	2
<i>Réacteurs chimiques</i>	2
<i>Mécanique des fluides</i>	2

Chimie pour la biomass	6
Physical chemistry	2
Biomass chemistry	2
Macromolecular chemistry	1
Conferences and visits	1

Langue et formation professionnelle	6
<i>Anglais ou FLE</i>	2
<i>Stratégie</i>	2
<i>Marketing</i>	2

Maquette des enseignements de M1 S8

Analytical Chemistry	3
Analytical chemistry	2
Analytical chemistry - lab work	1

Process engineering	6
Energy (lectures and lab work)	2,5
Unit operations in process engineering	1,5
Rheology of complex media	1
Industrial site visit	1

Polymers	6
Structure and rheology of polymers	2
Polymeric materials	1
Polymers	1
Biopolymers	1
Biopolymers - labwork	1

Methods for biorefinery	6
Biotechnology	2
Separation and purification techniques	2
Bleaching of lignocellulosic fibers	2

Bioproducts	3
Biorefinery-bioproducts Lab work/projects	2
Advanced Bio-based materials - APP	1

Projects and english	6
<i>English or French (FLE)</i>	2
<i>Stage pour 4 ECTS</i>	4

Maquette des enseignements M2 S9

Biorefinery for chemicals	6
Production of cellulosic fibers	2,5
Bioproducts	2,5
Advanced biorefinery processes	1

Biorefinery for energy	6
Chemical and biochemical processes	2
Biomethane production	1
Thermal processes	3

Biomaterials	3
Nanopolymers	1
Biocomposites	1
Materials from lignin and hemicelluloses	1

Analysis	6
Advanced analytical techniques	2
LCA-Environmental assessment	2
Experimental design	1
Advanced chemical analysis - Labwork	1

Foreign languages and projects	9
<i>English or French</i>	2
<i>Quality, investment, development, marketing research</i>	7

Maquette des enseignements M2 S10

<i>Project in company</i>	30
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