
ENGINEERING PROGRAMME

2025-2026

Year 3

PROGRAMME SUPERVISOR
Jean-Sebastien LE BRIZAUT



ENGINEERING PROGRAMME - Year 3

Autumn Semester

Course unit	ECTS Credits	Course type	Course code	Title
UE91	1			
		Core course	EPSS79	Sports and Physical Education
		Elective course	LVC	Modern languages 2 (Chinese - English - German - Italian - Japanese - Russian - Spanish)
		Elective course	LVO	Modern languages 1 (English - French Foreign Language)
UE92	4			
		Core course	OP	See professional option syllabus
UE93	9			
		Core course	OD	See specialisation option syllabus
UE94	10			
		Core course	OD	See specialisation option syllabus
UE95	6			
		Core course	APP_ENTR1	Apprenticeship in the company

Spring Semester

Course unit	ECTS Credits	Course type	Course code	Title
UE101	1	Core course	EPSS810	Physical Education & Sports
		Elective course	LVC	Modern languages 2 (Chinese - English - German - Italian - Japanese - Russian - Spanish)
		Elective course	LVO	Modern languages 1 (English - French Foreign Language)
UE102	1	Core course	OP	See professional option syllabus
		Core course	OD	See specialisation option syllabus
UE103	11	Core course	APP_ENTR1	Apprenticeship in the company
		Core course	TFE	Final year internship

ENGINEERING PROGRAMME

Year 3 - Autumn Semester - UE91

German [ALLS9]

LEAD PROFESSOR(S): Katja BORCK

Requirements

No beginners.

Objectives

The students will learn communication skills (enough to communicate on a daily basis at a non-specialist level as well as on a professional level - corresponding to a B2 level according to the CEFRL standards) including the comprehension of the particular country's social, political and cultural context through written and televised press in their chosen language. The acquisition and reinforcement of basic vocabulary, syntax, and pronunciation by both traditional means and using multimedia resources. The teaching approach is 'communicative' meaning that the language is not only the subject matter of the course, it is also a means of communication.

Course contents

The course activities cover a whole range of practical language and communication exercises that span written and oral comprehension and expression.

Course material

Preparation manuals for the various foreign language certificates & specific preparation manuals for language use in job-related contexts. Written and televised press, various internet sources, digital tools.

Sustainable Development Goals (SDGs) covered by this course

Affordable and clean energy / Climate action / Decent work and economic growth / Gender equality / Good health and well-being / Industry, innovation and infrastructure / Peace, justice and strong institutions / Reduced inequalities / Responsible consumption and production / Sustainable cities and communities

Sustainable Development and Social Responsibility Positioning

Key competencies for sustainability Collaboration: the abilities to learn, to understand and respect others; to deal with conflicts in a group; and to facilitate collaborative and participatory problem solving. Critical thinking: the ability to reflect on one's own values, perceptions and actions. Self-awareness: the ability to reflect on one's own role in a group; to continually evaluate and further motivate one's actions; and to deal with one's feelings and desires.

Assessment

Individual assessment: EVI 1 (coefficient 1)

LANGUAGE OF INSTRUCTION	ECTS CREDITS	LECTURES	TUTORIALS	LAB	PROJECT	EXAM
German	-	0 hrs	16 hrs	0 hrs	0 hrs	0 hrs

ENGINEERING PROGRAMME

Year 3 - Autumn Semester - UE91

English [ANGS9]

LEAD PROFESSOR(S): Matthew BEALL

Requirements

Students having followed the 1st year English course at Centrale Nantes should :

-be able to plan, prepare and structure a presentation effectively; use confident voice, body language, and professional signposting language; design clear, engaging slides; and employ techniques such as humour and anecdotes to captivate an audience.

-understand the purposes of CVs and cover letters and be able to produce clear, concise, and strategically written documents in English that follow English-speaking conventions, can be tailored to specific roles, and distinguish between AI-friendly and human-friendly formats.

-be able to describe their P2T project experience clearly and professionally using appropriate vocabulary to discuss project-based work.

Objectives

Course description :

In short, these classes' aim is to maintain English language knowledge while improving certain speaking skills that will render communication more fluid, both inside and outside the professional world.

The activities and projects at the heart of the program give a framework for communication and, often, a specific method to follow. In this way, transferable skills honed in the English language are the main takeaways of these classes.

Certain objectives are common to each year's focus:

- Asking thought-provoking questions
- Assembling and distributing coherent resources in a timely manner
- Choosing interesting topics
- Collaborating with others
- Concluding meaningfully
- Conducting relevant research
- Describing how something will solve a problem or take advantage of an opportunity
- Developing vocally-inflection, pronunciation, pitch, pace, pause, volume
- Distinguishing between a discussion and a debate
- Gathering useful information with your questions
- Highlighting your relevant background information/expertise
- Identifying a problem/opportunity
- Improvising pertinent follow-up questions
- Listening actively
- Making your contributions interactive whenever possible
- Participating actively in discussions
- Performing qualitative analysis
- Presenting in a clear and engaging manner
- Revealing group/individual beliefs, feelings and attitudes when appropriate
- Studying rhetorical devices for persuasion
- Sustaining discussions
- Taking thorough notes
- Understanding verbal and non-verbal cues

Course contents

Course content changes each year based on the following table

Year A (2025-2026)

Making a Pitch-Job Interview Practice-Focus on Culture-Describing a technical process

Year B (2026-2027)

Leading and participating in Meetings-Job Interview Practice-Focus on Culture-Debating Innovation

Year C (2028-2029)

Conducting focus groups-Conference Organization-Job Interview Practice-Focus on Culture-Popularizing Scientific Concepts (via social media)

Course material

Authentic written, televised, internet documents, as well as digital tools.

Sustainable Development Goals (SDGs) covered by this course

Industry, innovation and infrastructure / Responsible consumption and production / Sustainable cities and communities

Sustainable Development and Social Responsibility Positioning

Key competencies for sustainability Collaboration: the abilities to learn, to understand and respect others; to deal with conflicts in a group; and to facilitate collaborative and participatory problem solving. Critical thinking: the ability to reflect on one's own values, perceptions and actions. Self-awareness: the ability to reflect on one's own role in a group; to continually evaluate and further motivate one's actions; and to deal with one's feelings and desires.

Assessment

Individual assessment: EVI 1 (coefficient 1)

LANGUAGE OF INSTRUCTION	ECTS CREDITS	LECTURES	TUTORIALS	LAB	PROJECT	EXAM
English	-	0 hrs	16 hrs	0 hrs	0 hrs	0 hrs

ENGINEERING PROGRAMME

Year 3 - Autumn Semester - UE91

Chinese [CHIS9]

LEAD PROFESSOR(S): Jianping GUNST

Objectives

As well as for preparing the certificates required in English (or French as a foreign language), the students will learn basic communication skills (enough to communicate on a daily basis at a non-specialist level) including the comprehension of the particular country's social, political and cultural context through written and televised press in their chosen language. The acquisition and reinforcement of basic vocabulary, syntax, and pronunciation by both traditional means and using multimedia resources. The teaching approach is 'communicative' meaning that the language is not only the subject matter of the course, it is also a means of communication.

Course contents

The course activities cover a whole range of practical language and communication exercises that span written and oral comprehension and expression.

Written: multiple choice, gap filling, rephrasing;

Oral: awareness of registers, intonation, syntax as it applies to different situations, debates, study of unique situations, linguistic consequences of cultural differences, using media, telephoning.

Course material

Preparation manuals for the various foreign language certificates. Written and televised press, internet, general civilization documents, Numerical tools.

Sustainable Development Goals (SDGs) covered by this course

Decent work and economic growth / Good health and well-being

Sustainable Development and Social Responsibility Positioning

Key competencies for sustainability Collaboration: the abilities to learn, to understand and respect others; to deal with conflicts in a group; and to facilitate collaborative and participatory problem solving. Critical thinking: the ability to reflect on one's own values, perceptions and actions. Self-awareness: the ability to reflect on one's own role in a group; to continually evaluate and further motivate one's actions; and to deal with one's feelings and desires.

Assessment

Individual assessment: EVI 1 (coefficient 1)

LANGUAGE OF INSTRUCTION	ECTS CREDITS	LECTURES	TUTORIALS	LAB	PROJECT	EXAM
Chinese	-	0 hrs	32 hrs	0 hrs	0 hrs	0 hrs

ENGINEERING PROGRAMME

Year 3 - Autumn Semester - UE91

English [ENGS9]

LEAD PROFESSOR(S): Matthew BEALL

Requirements

Students having followed the 1st year English course at Centrale Nantes should :

-be able to plan, prepare and structure a presentation effectively; use confident voice, body language, and professional signposting language; design clear, engaging slides; and employ techniques such as humour and anecdotes to captivate an audience.

-understand the purposes of CVs and cover letters and be able to produce clear, concise, and strategically written documents in English that follow English-speaking conventions, can be tailored to specific roles, and distinguish between AI-friendly and human-friendly formats.

-be able to describe their P2T project experience clearly and professionally using appropriate vocabulary to discuss project-based work.

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Course description :

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- Developing vocally-inflection, pronunciation, pitch, pace, pause, volume
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Leading and participating in Meetings-Job Interview Practice-Focus on Culture-Debating Innovation

Year C (2028-2029)

Conducting focus groups-Conference Organization-Job Interview Practice-Focus on Culture-Popularizing Scientific Concepts (via social media)

Course material

Authentic written, televised, internet documents, as well as digital tools.

Sustainable Development Goals (SDGs) covered by this course

Industry, innovation and infrastructure / Responsible consumption and production / Sustainable cities and communities

Sustainable Development and Social Responsibility Positioning

Key competencies for sustainability Collaboration: the abilities to learn, to understand and respect others; to deal with conflicts in a group; and to facilitate collaborative and participatory problem solving. Critical thinking: the ability to reflect on one's own values, perceptions and actions. Self-awareness: the ability to reflect on one's own role in a group; to continually evaluate and further motivate one's actions; and to deal with one's feelings and desires.

Assessment

Individual assessment: EVI 1 (coefficient 1)

LANGUAGE OF INSTRUCTION	ECTS CREDITS	LECTURES	TUTORIALS	LAB	PROJECT	EXAM
English	-	0 hrs	16 hrs	0 hrs	0 hrs	0 hrs

ENGINEERING PROGRAMME

Year 3 - Autumn Semester - UE91

Sports and Physical Education [EPSS79]

LEAD PROFESSOR(S): *Gildas GUIHENEUF-LALERE / Grégory GARNIER*

Objectives

Sport as a:

- Counterbalancing element, promoting physical and moral health (general physical preparation)
- Group-building element through team activities promoting the development of the notions of cooperation, opposition, mutual aid, confidence...
- as a factor of autonomy and balance.
- as support for role-playing on topics related to Leadership and Group Management.

Course contents

- To be an active participant in one's training by choosing one's development framework from among different APS
- Understand and assimilate the physiology of effort
- Design, evaluate and regulate learning situations
- Managing information flows
- Organize the work and production of others

Sustainable Development Goals (SDGs) covered by this course

Gender equality / Good health and well-being / Quality education / Reduced inequalities

Sustainable Development and Social Responsibility Positioning

The aim of Physical Education at École Centrale Nantes is to have students practice together, with an explicit focus on well-being and personal development, without regard to the origin(s) and gender of each individual.

Assessment

Individual assessment: EVI 1 (coefficient 1)

LANGUAGE OF INSTRUCTION	ECTS CREDITS	LECTURES	TUTORIALS	LAB	PROJECT	EXAM
French	-	0 hrs	30 hrs	0 hrs	0 hrs	0 hrs

ENGINEERING PROGRAMME

Year 3 - Autumn Semester - UE91

Spanish [ESPS9]

LEAD PROFESSOR(S): Irene OJEDA IGLESIAS / Marta HERRERA

Requirements

first year content

Objectives

Acquisition and reinforcement of the 4 competencies in written and oral expression & comprehension.

Acquisition of vocabulary, syntax and pronunciation by both traditional means and through the use of digital resources.

Discovery of the Spanish-speaking worlds.

Course contents

Methods

individual and group productions & presentations
Written, digital and audiovisual tools

Contents

2 communicational approaches:

1- Monographical lectures on various engineering specialisations with active contributions of the students (debating, group and individual productions and presentations).

2- Multi-week projects on corporate cultures, engineering and techniques in Spanish-speaking cultures. Virtual---but realistic---projects producing the theoretical implementation of a professional activity.
Public presentations of the results.

Assessment:

Evaluation of the in-class activities.

Course material

Preparation manuals for the various foreign language certificates. Written and televised press, internet, general civilization documents, digital tools.

Sustainable Development Goals (SDGs) covered by this course

Affordable and clean energy / Climate action / Decent work and economic growth / Gender equality / Good health and well-being / Industry, innovation and infrastructure / Life on land / No poverty / Partnerships for the goals / Peace, justice and strong institutions / Quality education / Reduced inequalities / Responsible consumption and production / Sustainable cities and communities / Zero hunger

Sustainable Development and Social Responsibility Positioning

Key competencies for sustainability
 Collaboration: the abilities to learn, to understand and respect others; to deal with conflicts in a group; and to facilitate collaborative and participatory problem solving. Critical thinking: the ability to reflect on one's own values, perceptions and actions. Self-awareness: the ability to reflect on one's own role in a group; to continually evaluate and further motivate one's actions; and to deal with one's feelings and desires.

Assessment

Individual assessment: EVI 1 (coefficient 1)

LANGUAGE OF INSTRUCTION	ECTS CREDITS	LECTURES	TUTORIALS	LAB	PROJECT	EXAM
Spanish	-	0 hrs	16 hrs	0 hrs	0 hrs	0 hrs

ENGINEERING PROGRAMME

Year 3 - Autumn Semester - UE91

French Foreign Language [FLES9]

LEAD PROFESSOR(S): *Silvia ERTL*

Requirements

N/A

Objectives

The objective is to familiarise the learner with the French language and French culture through an entertaining task-based approach.

Course contents

The course activities cover a whole range of practical language and communication exercises that span written and oral comprehension and expression.

French as a Foreign Language:

The classes are organised into workshops to alternate work on the four language skills in level groups.

Workshops:

- Theatre / song / oral expression / phonetics
- Film / cinema
- Media / oral comprehension (TV-radio)
- Written expression / news writing
- Grammar games
- Interculturalism / advertising / language register / idiomatic expressions
- CVs/ cover letters / job interviews / telephone skills

- TFI diploma; Common theme linking the workshops: grammar items.

1) Theatre (all levels).

Work based on plays (Molière, Cyrano) with emphasis on phonetics. Beginner level: simple dialogue, production and roleplays.

Production: Arts column - video, reviews.

2) Cinema (advanced level):

Multimodal interpretation of a selection of French films (L'Auberge Espagnole, Entre les murs, Ressources Humaines, etc.);

Description of images, analysis, interaction (gestures etc); Production: Arts column cinema reviews, surveys, visit or exchange with ESMA film school.

3) Media (all levels):

Listening exercises adapted to different levels Advanced level: work on caricatures (les Guignols). Production: quiz or crosswords, Web-TV

4) Written expression (all levels):

Work on the different columns of a newspaper and the specific vocabulary, according to the group level.; Production: articles, ads

5) Grammar games (all levels):

Grammar work essentially using teaching aids, according to the group level. Production: interactive platform game.

6) Interculturalism (advanced level):

Explore and debate cultural differences.; Work on language register and idiomatic expressions through advertising. Production: advertising inserts, debates, Web-TV.

7) TFI diploma (all levels): Familiarise with the B2 certification format.

Alongside workshops work on field experiences:

- Linguistic challenges <https://monnantessamoi.wordpress.com>
- photo rally and information on monuments
- weekend activity log
- cinema and theatre outings + reviews and/or interviews

- photo exhibitions with textual descriptions
- surveys (student / leisure / holiday budgets)
- sketches on the theme French characters

Course material

Preparation manuals for the various foreign language certificates. Written and televised press, internet, general civilization documents, digital tools.

Sustainable Development Goals (SDGs) covered by this course

Quality education

Sustainable Development and Social Responsibility Positioning

Targeted competencies extracted from: Education for sustainable development goals, learning objectives (UNESCO) <https://unesdoc.unesco.org/ark:/48223/pf0000247507> <https://www.coe.int/fr/web/common-european-framework-reference-languages/official-translations-of-the-cefr-global-scale>

Assessment

Individual assessment: EVI 1 (coefficient 1)

LANGUAGE OF INSTRUCTION	ECTS CREDITS	LECTURES	TUTORIALS	LAB	PROJECT	EXAM
French	-	0 hrs	16 hrs	0 hrs	0 hrs	0 hrs

ENGINEERING PROGRAMME

Year 3 - Autumn Semester - UE91

Italian [ITAS9]

LEAD PROFESSOR(S): Annunziata CALECA

Objectives

As well as for preparing the certificates required in English (or French as a foreign language), the students will learn basic communication skills (enough to communicate on a daily basis at a non-specialist level) including the comprehension of the particular country's social, political and cultural context through written and televised press in their chosen language. The acquisition and reinforcement of basic vocabulary, syntax, and pronunciation by both traditional means and using multimedia resources. The teaching approach is 'communicative' meaning that the language is not only the subject matter of the course, it is also a means of communication.

Course contents

The course activities cover a whole range of practical language and communication exercises that span written and oral comprehension and expression.

Written: multiple choice, gap filling, rephrasing;

Oral: awareness of registers, intonation, syntax as it applies to different situations, debates, study of unique situations, linguistic consequences of cultural differences, using media, telephoning.

Course material

Preparation manuals for the various foreign language certificates. Written and televised press, internet, general civilization documents, Numerical tools.

Sustainable Development Goals (SDGs) covered by this course

Partnerships for the goals / Quality education

Sustainable Development and Social Responsibility Positioning

The Italian LVC aims to create the necessary conditions to strengthen or find partnerships in Italy with the objective, besides the profitability of a company, of the sustainable development of our societies.

Assessment

Individual assessment: EVI 1 (coefficient 1)

LANGUAGE OF INSTRUCTION	ECTS CREDITS	LECTURES	TUTORIALS	LAB	PROJECT	EXAM
Italian	-	0 hrs	16 hrs	0 hrs	0 hrs	0 hrs

ENGINEERING PROGRAMME

Year 3 - Autumn Semester - UE91

Japanese [JAPS9]

LEAD PROFESSOR(S): Kyoko LEVACHER / Yukie NAKAO

Objectives

The acquisition and reinforcement of basic vocabulary, syntax, and pronunciation by both traditional means and using multimedia resources. The teaching approach is 'communicative' meaning that the language is not only the subject matter of the course, it is also a means of communication.

Course contents

The course activities cover a whole range of practical language and communication exercises that span written and oral comprehension and expression.

Written: multiple choice, gap filling, rephrasing;

Oral: awareness of registers, intonation, syntax as it applies to different situations, debates, study of unique situations, linguistic consequences of cultural differences, using media, telephoning.

Course material

Preparation manuals for the various foreign language certificates.

Sustainable Development Goals (SDGs) covered by this course

Partnerships for the goals

Sustainable Development and Social Responsibility Positioning

The learning of foreign languages is fully aligned with a sustainable development and social responsibility approach. By fostering cultural openness, it enables a better understanding of social and environmental issues on a global scale. Languages thus become tools for dialogue, cooperation, and civic action. By integrating topics related to sustainable development and adopting responsible teaching practices, language education helps to shape citizens who are aware, engaged, and capable of acting in an interconnected world.

Assessment

Individual assessment: EVI 1 (coefficient 1)

LANGUAGE OF INSTRUCTION	ECTS CREDITS	LECTURES	TUTORIALS	LAB	PROJECT	EXAM
Japan	-	0 hrs	32 hrs	0 hrs	0 hrs	0 hrs

ENGINEERING PROGRAMME

Year 3 - Autumn Semester - UE91

Russian [RUSS9]

LEAD PROFESSOR(S): Larissa GEORGET

Objectives

As well as for preparing the certificates required in English (or French as a foreign language), the students will learn basic communication skills (enough to communicate on a daily basis at a non-specialist level) including the comprehension of the particular country's social, political and cultural context through written and televised press in their chosen language. The acquisition and reinforcement of basic vocabulary, syntax, and pronunciation by both traditional means and using multimedia resources. The teaching approach is 'communicative' meaning that the language is not only the subject matter of the course, it is also a means of communication.

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Written: multiple choice, gap filling, rephrasing;

Oral: awareness of registers, intonation, syntax as it applies to different situations, debates, study of unique situations, linguistic consequences of cultural differences, using media, telephoning.

Course material

! 1.2- Méthode de russe pour les adultes.

Auteur : S. Chernyshov, A. Chernyshova

KOHTAKT- Méthode de russe pour débutants. Langue et civilisation. Auteur : Zeltchenko Maria,

Russe - Cahier d'activités pour apprendre et réviser

Niveau A1-A2 Auteur : Annie Tchernychev

Ruslan 1 Auteur: Langran John / Vashinyeva Natalya

My russian friend de Maria Zagrebelnaya,

Sustainable Development Goals (SDGs) covered by this course

Peace, justice and strong institutions

Assessment

Individual assessment: EVI 1 (coefficient 1)

LANGUAGE OF INSTRUCTION	ECTS CREDITS	LECTURES	TUTORIALS	LAB	PROJECT	EXAM
Russian	-	0 hrs	16 hrs	0 hrs	0 hrs	0 hrs

ENGINEERING PROGRAMME

Year 3 - Autumn Semester - UE95

Apprenticeship in the company [APP_ENTR1]

LEAD PROFESSOR(S): Jean-Sebastien LE BRIZAUT

Requirements

none

Objectives

Validation of business activities, acquired skills, entrusted responsibilities and apprenticeship in the engineering profession

Course contents

not applicable

Course material

not applicable

Sustainable Development Goals (SDGs) covered by this course

Affordable and clean energy / Clean water and sanitation / Climate action / Decent work and economic growth / Gender equality / Good health and well-being / Industry, innovation and infrastructure / Life below water / Life on land / No poverty / Partnerships for the goals / Peace, justice and strong institutions / Quality education / Reduced inequalities / Responsible consumption and production / Sustainable cities and communities / Zero hunger

Sustainable Development and Social Responsibility Positioning

It depends on the tasks assigned to the apprentice in their company... Anything is possible.

Assessment

Individual assessment: EVI 1 (coefficient 1)

LANGUAGE OF INSTRUCTION	ECTS CREDITS	LECTURES	TUTORIALS	LAB	PROJECT	EXAM
French	-	0 hrs	0 hrs	0 hrs	0 hrs	0 hrs

ENGINEERING PROGRAMME

Year 3 - Spring Semester - UE101

German [ALLS10]

LEAD PROFESSOR(S): Katja BORCK

Requirements

No beginners.

Objectives

The students will learn communication skills (enough to communicate on a daily basis at a non-specialist level as well as on a professional level - corresponding to a B2 level according to the CEFRL standards) including the comprehension of the particular country's social, political and cultural context through written and televised press in their chosen language. The acquisition and reinforcement of basic vocabulary, syntax, and pronunciation by both traditional means and using multimedia resources. The teaching approach is 'communicative' meaning that the language is not only the subject matter of the course, it is also a means of communication.

Course contents

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Course material

Preparation manuals for the various foreign language certificates & specific preparation manuals for language use in job-related contexts. Written and televised press, various internet sources, digital tools.

Sustainable Development Goals (SDGs) covered by this course

Affordable and clean energy / Climate action / Decent work and economic growth / Gender equality / Good health and well-being / Industry, innovation and infrastructure / Peace, justice and strong institutions / Reduced inequalities / Responsible consumption and production / Sustainable cities and communities

Sustainable Development and Social Responsibility Positioning

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Assessment

Individual assessment: EVI 1 (coefficient 1)

LANGUAGE OF INSTRUCTION	ECTS CREDITS	LECTURES	TUTORIALS	LAB	PROJECT	EXAM
German	-	0 hrs	8 hrs	0 hrs	0 hrs	0 hrs

ENGINEERING PROGRAMME

Year 3 - Spring Semester - UE101

English [ANGS10]

LEAD PROFESSOR(S): Matthew BEALL

Requirements

Students having followed the 1st year English course at Centrale Nantes should:

-be able to plan, prepare and structure a presentation effectively; use confident voice, body language, and professional signposting language; design clear, engaging slides; and employ techniques such as humour and anecdotes to captivate an audience.

-understand the purposes of CVs and cover letters and be able to produce clear, concise, and strategically written documents in English that follow English-speaking conventions, can be tailored to specific roles, and distinguish between AI-friendly and human-friendly formats.

-be able to describe their P2T project experience clearly and professionally using appropriate vocabulary to discuss project-based work.

Objectives

Course description :

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Year C (2028-2029)

Conducting focus groups-Conference Organization-Job Interview Practice-Focus on Culture-Popularizing Scientific Concepts (via social media)

Course material

Authentic written, televised, internet documents, as well as digital tools.

Sustainable Development Goals (SDGs) covered by this course

Industry, innovation and infrastructure / Responsible consumption and production / Sustainable cities and communities

Sustainable Development and Social Responsibility Positioning

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Assessment

Individual assessment: EVI 1 (coefficient 1)

LANGUAGE OF INSTRUCTION	ECTS CREDITS	LECTURES	TUTORIALS	LAB	PROJECT	EXAM
English	-	0 hrs	8 hrs	0 hrs	0 hrs	0 hrs

ENGINEERING PROGRAMME

Year 3 - Spring Semester - UE101

Chinese [CHIS10]

LEAD PROFESSOR(S): Jianping GUNST

Objectives

To be able to understand recorded dialogues more easily, to improve the capacity of reading and written expression. Learn to communicate more easily. Acquisition and reinforcement of vocabulary, syntax and pronunciation by traditional means and using multimedia resources on the social, political and cultural context. Continued preparation for the HSK.

Course contents

Texts and HSK 2- 3
Reading and listening.

Course material

HSK and the press

Sustainable Development Goals (SDGs) covered by this course

Gender equality / Sustainable cities and communities

Sustainable Development and Social Responsibility Positioning

Key competencies for sustainability Collaboration: the abilities to learn, to understand and respect others; to deal with conflicts in a group; and to facilitate collaborative and participatory problem solving. Critical thinking: the ability to reflect on one's own values, perceptions and actions. Self-awareness: the ability to reflect on one's own role in a group; to continually evaluate and further motivate one's actions; and to deal with one's feelings and desires.

Assessment

Individual assessment: EVI 1 (coefficient 1)

LANGUAGE OF INSTRUCTION	ECTS CREDITS	LECTURES	TUTORIALS	LAB	PROJECT	EXAM
Chinese	-	0 hrs	16 hrs	0 hrs	0 hrs	0 hrs

ENGINEERING PROGRAMME

Year 3 - Spring Semester - UE101

English [ENGS10]

LEAD PROFESSOR(S): Matthew BEALL

Requirements

Students having followed the 1st year English course at Centrale Nantes should :

-be able to plan, prepare and structure a presentation effectively; use confident voice, body language, and professional signposting language; design clear, engaging slides; and employ techniques such as humour and anecdotes to captivate an audience.

-understand the purposes of CVs and cover letters and be able to produce clear, concise, and strategically written documents in English that follow English-speaking conventions, can be tailored to specific roles, and distinguish between AI-friendly and human-friendly formats.

-be able to describe their P2T project experience clearly and professionally using appropriate vocabulary to discuss project-based work.

Objectives

Course description :

In short, these classes' aim is to maintain English language knowledge while improving certain speaking skills that will render communication more fluid, both inside and outside the professional world.

The activities and projects at the heart of the program give a framework for communication and, often, a specific method to follow. In this way, transferable skills honed in the English language are the main takeaways of these classes.

Certain objectives are common to each year's focus:

- Asking thought-provoking questions
- Assembling and distributing coherent resources in a timely manner
- Choosing interesting topics
- Collaborating with others
- Concluding meaningfully
- Conducting relevant research
- Describing how something will solve a problem or take advantage of an opportunity
- Developing vocally-inflection, pronunciation, pitch, pace, pause, volume
- Distinguishing between a discussion and a debate
- Gathering useful information with your questions
- Highlighting your relevant background information/expertise
- Identifying a problem/opportunity
- Improvising pertinent follow-up questions
- Listening actively
- Making your contributions interactive whenever possible
- Participating actively in discussions
- Performing qualitative analysis
- Presenting in a clear and engaging manner
- Revealing group/individual beliefs, feelings and attitudes when appropriate
- Studying rhetorical devices for persuasion
- Sustaining discussions
- Taking thorough notes
- Understanding verbal and non-verbal cues

Course contents

Course content changes each year based on the following table

Year A (2025-2026)

Making a Pitch-Job Interview Practice-Focus on Culture-Describing a technical process

Year B (2026-2027)

Leading and participating in Meetings-Job Interview Practice-Focus on Culture-Debating Innovation

Year C (2028-2029)

Conducting focus groups-Conference Organization-Job Interview Practice-Focus on Culture-Popularizing Scientific Concepts (via social media)

Course material

Authentic written, televised, internet documents, as well as digital tools.

Sustainable Development Goals (SDGs) covered by this course

Industry, innovation and infrastructure / Responsible consumption and production / Sustainable cities and communities

Sustainable Development and Social Responsibility Positioning

Key competencies for sustainability Collaboration: the abilities to learn, to understand and respect others; to deal with conflicts in a group; and to facilitate collaborative and participatory problem solving. Critical thinking: the ability to reflect on one's own values, perceptions and actions. Self-awareness: the ability to reflect on one's own role in a group; to continually evaluate and further motivate one's actions; and to deal with one's feelings and desires.

Assessment

Individual assessment: EVI 1 (coefficient 1)

LANGUAGE OF INSTRUCTION	ECTS CREDITS	LECTURES	TUTORIALS	LAB	PROJECT	EXAM
English	-	0 hrs	8 hrs	0 hrs	0 hrs	0 hrs

ENGINEERING PROGRAMME

Year 3 - Spring Semester - UE101

Physical Education & Sports [EPSS810]

LEAD PROFESSOR(S): *Gildas GUIHENEUF-LALERE / Grégory GARNIER*

Objectives

Sports and physical education contribute significantly to an engineer's physical, psychological, social and intellectual development, as well as to his/her general well being. These activities:

- Strengthen self-esteem,
- Trigger a sense of competition and solidarity, team spirit and the desire to succeed,
- Prepare for the demands of a career by fostering team and individual initiative,
- As support for role-playing on topics related to Leadership and Group Management.

Course contents

- Taking ownership of one's learning by choosing one's learning environment from various physical activities
- Understanding and assimilating the physiology of exercise
- Designing, evaluating, and regulating learning situations. Organizing the work and output of others
- Managing information flow
- Leading a group within a learning situation :
 - Defining the context
 - Defining the objectives to be achieved
 - Defining the methods of execution
 - Answering questions from other students
 - Being able to perform self-assessment

Sustainable Development Goals (SDGs) covered by this course

Gender equality / Good health and well-being / Quality education / Reduced inequalities

Sustainable Development and Social Responsibility Positioning

The aim of Physical Education at École Centrale Nantes is to have students practice together, with an explicit focus on well-being and personal development, without regard to the origin(s) and gender of each individual.

Assessment

Individual assessment: EVI 1 (coefficient 1)

LANGUAGE OF INSTRUCTION	ECTS CREDITS	LECTURES	TUTORIALS	LAB	PROJECT	EXAM
French	-	0 hrs	16 hrs	0 hrs	0 hrs	0 hrs

ENGINEERING PROGRAMME

Year 3 - Spring Semester - UE101

Spanish [ESPS10]

LEAD PROFESSOR(S): Irene OJEDA IGLESIAS / Marta HERRERA

Objectives

Acquisition and reinforcement of the 4 competencies in written and oral expression & comprehension.

Acquisition of vocabulary, syntax and pronunciation by both traditional means and through the use of digital resources.

Discovery of the Spanish-speaking worlds.

Course contents

Methods

individual and group productions & presentations
Written, digital and audiovisual tools

Contents

2 communicational approaches:

1- Monographical lectures on various engineering specialisations with active contributions of the students (debating, group and individual productions and presentations).

2- Multi-week projects on corporate cultures, engineering and techniques in Spanish-speaking cultures. Virtual---but realistic---projects producing the theoretical implementation of a professional activity.
Public presentations of the results.

Assessment:

Evaluation of the in-class activities.

Course material

Preparation manuals for the various foreign language certificates. Written and televised press, internet, general civilization documents, digital tools.

Sustainable Development Goals (SDGs) covered by this course

Affordable and clean energy / Climate action / Decent work and economic growth / Gender equality / Good health and well-being / Industry, innovation and infrastructure / Life on land / No poverty / Partnerships for the goals / Peace, justice and strong institutions / Quality education / Reduced inequalities / Responsible consumption and production / Sustainable cities and communities / Zero hunger

Sustainable Development and Social Responsibility Positioning

Key competencies for sustainability Collaboration: the abilities to learn, to understand and respect others; to deal with conflicts in a group; and to facilitate collaborative and participatory problem solving. Critical thinking: the ability to reflect on one's own values, perceptions and actions. Self-awareness: the ability to reflect on one's own role in a group; to continually evaluate and further motivate one's actions; and to deal with one's feelings and desires.

Assessment

Individual assessment: EVI 1 (coefficient 1)

LANGUAGE OF INSTRUCTION	ECTS CREDITS	LECTURES	TUTORIALS	LAB	PROJECT	EXAM
Spanish	-	0 hrs	8 hrs	0 hrs	0 hrs	0 hrs

ENGINEERING PROGRAMME

Year 3 - Spring Semester - UE101

French Foreign Language [FLES10]

LEAD PROFESSOR(S): *Silvia ERTL*

Requirements

N/A

Objectives

The objective is to familiarise the learner with the French language and French culture through an entertaining task-based approach.

Course contents

The course activities cover a whole range of practical language and communication exercises that span written and oral comprehension and expression.

The classes are organised into workshops to alternate work on the four language skills in level groups.

Workshops:

- CVs/ cover letters / job interviews / telephone skills

Write a CV and cover letter work on specific vocabulary. Prepare a job interview. Production: Job offers / ready to go applications

- TFI diploma

Specific preparation for students who did not validate the B2 certification.

Course material

Preparation manuals for the various foreign language certificates. Written and televised press, internet, general civilization documents, digital tools.

Sustainable Development Goals (SDGs) covered by this course

Quality education

Sustainable Development and Social Responsibility Positioning

Targeted competencies extracted from: Education for sustainable development goals, learning objectives (UNESCO) <https://unesdoc.unesco.org/ark:/48223/pf0000247507> <https://www.coe.int/fr/web/common-european-framework-reference-languages/official-translations-of-the-cefr-global-scale>

Assessment

Individual assessment: EVI 1 (coefficient 1)

LANGUAGE OF INSTRUCTION	ECTS CREDITS	LECTURES	TUTORIALS	LAB	PROJECT	EXAM
French	-	0 hrs	8 hrs	0 hrs	0 hrs	0 hrs

ENGINEERING PROGRAMME

Year 3 - Spring Semester - UE101

Italian [ITAS10]

LEAD PROFESSOR(S): Annunziata CALECA

Objectives

As well as for preparing the certificates required in English (or French as a foreign language), the students will learn basic communication skills (enough to communicate on a daily basis at a non-specialist level) including the comprehension of the particular country's social, political and cultural context through written and televised press in their chosen language. The acquisition and reinforcement of basic vocabulary, syntax, and pronunciation by both traditional means and using multimedia resources. The teaching approach is 'communicative' meaning that the language is not only the subject matter of the course, it is also a means of communication.

Course contents

The course activities cover a whole range of practical language and communication exercises that span written and oral comprehension and expression.

Written: multiple choice, gap filling, rephrasing;

Oral: awareness of registers, intonation, syntax as it applies to different situations, debates, study of unique situations, linguistic consequences of cultural differences, using media, telephoning.

Course material

Preparation manuals for the various foreign language certificates. Written and televised press, internet, general civilization documents, Numerical tools.

Sustainable Development Goals (SDGs) covered by this course

Partnerships for the goals / Quality education

Sustainable Development and Social Responsibility Positioning

The Italian LVC aims to create the necessary conditions to strengthen or find partnerships in Italy with the objective, besides the profitability of a company, of the sustainable development of our societies.

Assessment

Individual assessment: EVI 1 (coefficient 1)

LANGUAGE OF INSTRUCTION	ECTS CREDITS	LECTURES	TUTORIALS	LAB	PROJECT	EXAM
Italian	-	0 hrs	8 hrs	0 hrs	0 hrs	0 hrs

ENGINEERING PROGRAMME

Year 3 - Spring Semester - UE101

Japanese [JAPS10]

LEAD PROFESSOR(S): Kyoko LEVACHER / Yukie NAKAO

Objectives

The acquisition and reinforcement of basic vocabulary, syntax, and pronunciation by both traditional means and using multimedia resources. The teaching approach is 'communicative' meaning that the language is not only the subject matter of the course, it is also a means of communication.

Course contents

The course activities cover a whole range of practical language and communication exercises that span written and oral comprehension and expression.

Course material

Preparation manuals for the various foreign language certificates.

Sustainable Development Goals (SDGs) covered by this course

Partnerships for the goals

Sustainable Development and Social Responsibility Positioning

The learning of foreign languages is fully aligned with a sustainable development and social responsibility approach. By fostering cultural openness, it enables a better understanding of social and environmental issues on a global scale. Languages thus become tools for dialogue, cooperation, and civic action. By integrating topics related to sustainable development and adopting responsible teaching practices, language education helps to shape citizens who are aware, engaged, and capable of acting in an interconnected world.

Assessment

Individual assessment: EVI 1 (coefficient 1)

LANGUAGE OF INSTRUCTION	ECTS CREDITS	LECTURES	TUTORIALS	LAB	PROJECT	EXAM
Japan	-	0 hrs	16 hrs	0 hrs	0 hrs	0 hrs

ENGINEERING PROGRAMME

Year 3 - Spring Semester - UE101

Russian [RUSS10]

LEAD PROFESSOR(S): Larissa GEORGET

Objectives

As well as for preparing the certificates required in English (or French as a foreign language), the students will learn basic communication skills (enough to communicate on a daily basis at a non-specialist level) including the comprehension of the particular country's social, political and cultural context through written and televised press in their chosen language. The acquisition and reinforcement of basic vocabulary, syntax, and pronunciation by both traditional means and using multimedia resources. The teaching approach is 'communicative' meaning that the language is not only the subject matter of the course, it is also a means of communication.

Course contents

The course activities cover a whole range of practical language and communication exercises that span written and oral comprehension and expression.

Written: multiple choice, gap filling, rephrasing;

Oral: awareness of registers, intonation, syntax as it applies to different situations, debates, study of unique situations, linguistic consequences of cultural differences, using media, telephoning.

Course material

! 1.2 Méthode de russe pour les adultes.

Auteur : S. Chernyshov, A. Chernyshova

KOHTAKT- Méthode de russe pour débutants. Langue et civilisation. Auteur : Zeltchenko Maria,

Russe - Cahier d'activités pour apprendre et réviser

Niveau A1-A2 Auteur : Annie Tchernychev

Ruslan 1 Auteur: Langran John / Vashinyeva Natalya

My Russian friend de Maria Zagrebelnaya,

Sustainable Development Goals (SDGs) covered by this course

Peace, justice and strong institutions

Assessment

Individual assessment: EVI 1 (coefficient 1)

LANGUAGE OF INSTRUCTION	ECTS CREDITS	LECTURES	TUTORIALS	LAB	PROJECT	EXAM
Russian	-	0 hrs	8 hrs	0 hrs	0 hrs	0 hrs

ENGINEERING PROGRAMME

Year 3 - Spring Semester - UE104

Apprenticeship in the company [APP_ENTR1]

LEAD PROFESSOR(S): Jean-Sebastien LE BRIZAUT

Requirements

none

Objectives

Validation of business activities, acquired skills, entrusted responsibilities and apprenticeship in the engineering profession

Course contents

not applicable

Course material

not applicable

Sustainable Development Goals (SDGs) covered by this course

Affordable and clean energy / Clean water and sanitation / Climate action / Decent work and economic growth / Gender equality / Good health and well-being / Industry, innovation and infrastructure / Life below water / Life on land / No poverty / Partnerships for the goals / Peace, justice and strong institutions / Quality education / Reduced inequalities / Responsible consumption and production / Sustainable cities and communities / Zero hunger

Sustainable Development and Social Responsibility Positioning

It depends on the tasks assigned to the apprentice in their company... Anything is possible.

Assessment

Individual assessment: EVI 1 (coefficient 1)

LANGUAGE OF INSTRUCTION	ECTS CREDITS	LECTURES	TUTORIALS	LAB	PROJECT	EXAM
French	-	0 hrs	0 hrs	0 hrs	0 hrs	0 hrs

ENGINEERING PROGRAMME

Year 3 - Spring Semester - UE104

Final year internship [TFE]

LEAD PROFESSOR(S): Myriam SERVIÈRES

Objectives

This internship is carried out at the end of the third year.

It is linked either to the specialisation or to the professional option and thus its subject has to be in line with the curriculum of either one or the other. The aim is to apply the knowledge acquired in one of these two options in a company, laboratory or research organisation.

Course contents

The internship should last at least 25 consecutive full-time weeks. It can be undertaken in France or abroad.

Sustainable Development Goals (SDGs) covered by this course

Decent work and economic growth / Industry, innovation and infrastructure / Quality education

Sustainable Development and Social Responsibility Positioning

This final-year internship contributes to sustainable development objectives by placing students in situations of autonomy and responsibility in the application of the knowledge and skills acquired during their training, within a professional or research context related to their disciplinary or professional option. It contributes to Sustainable Development Goal No. 4 (Quality Education) by consolidating engineering-level competencies through practice-based learning, mobilizing advanced technical, scientific and methodological knowledge. It also contributes to Sustainable Development Goal No. 8 (Decent Work and Economic Growth) by preparing students for qualified professional integration, exposing them to real work environments and to the requirements associated with responsible engineering assignments. Finally, it aligns with Sustainable Development Goal No. 9 (Industry, Innovation and Infrastructure) through its grounding in projects carried out within companies, laboratories or research organizations, contributing to innovation, research activities or the development of technical, technological or scientific solutions.

Assessment

Individual assessment: EVI 1 (coefficient 1)

LANGUAGE OF INSTRUCTION	ECTS CREDITS	LECTURES	TUTORIALS	LAB	PROJECT	EXAM
French	-	0 hrs	0 hrs	0 hrs	0 hrs	0 hrs