

SHAKE THE FUTURE.



# ENGINEERING PROGRAMME

LANGUAGES, MANAGEMENT,  
SOCIAL SCIENCES AND SPORT

**YEAR 2**  
AUTUMN SEMESTER

# MODERN LANGUAGES 1 - ENGLISH

LANGUAGES, MANAGEMENT, SOCIAL SCIENCES AND SPORT,

YEAR 2 - ENGINEERING PROGRAMME

AUTUMN SEMESTER

*Professor: Christine Evain & Spencer Hawkrige*

## Objectives

Acquisition and reinforcement of basic vocabulary, syntax, and pronunciation by both traditional means 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 that the students should appropriate in an optimal manner.

## 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, 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.

## Keywords

Managerial and cultural skills; communicative teaching approach; procedural methods; multimedia

## Links with other programmes

Communication in French / Management / Corporate cultures

LANGUAGE	ECTS CREDITS	LECTURES	TUTORIALS	LABO	PROJECT
English	*	0 hrs	0 hrs	16 hrs	0 hrs

\* 1 ECTS credit is awarded upon successful completion of Modern Languages 1 and 2 and Sport.

# MODERN LANGUAGES 2

LANGUAGES, MANAGEMENT, SOCIAL SCIENCES AND SPORT,  
YEAR 2 – ENGINEERING PROGRAMME  
AUTUMN SEMESTER

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*Professor: Frédéric Dorel*

## Objectives

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Students will study one of the following languages in addition to English:

- French (for international students) – see below
- German
- Spanish – see below
- Italian
- Japanese
- Chinese
- Russian
- Arabic
- Portuguese

As well as for preparing the certificates required in English/French, 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 choice of modern 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.

NB: International students whose native language is not French (and do not speak French fluently) must take French as a foreign language course and pass the TFI *Diplôme de Langue Française*. If their native language is not English, these students must also take the English course, a compulsory language at ECN.

## Course contents

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The course activities cover a whole range of practical language and communication exercises that span written and oral comprehension and expression. Preparation for language competence certificates: B2 in German, DELE in Spanish, TFI in French as a foreign language. Certificates in Italian, Japanese, Portuguese and Chinese are also available.

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

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

## Keywords

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Managerial and cultural skills; communicative teaching approach; procedural methods; numerical.

## Links with other programmes

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Communication in French / Management / Corporate cultures

LANGUAGE	ECTS CREDITS	LECTURES	TUTORIALS	LABO	PROJECT
According to choice	*	0 hrs	0 hrs	16 hrs	0 hrs

\* 1 ECTS credit is awarded upon successful completion of Modern Languages 1 and 2 and Sport.

## French

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The objective is to familiarize the learner with the French language and French culture through an entertaining task-based approach. 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 without B2 certification.

## Spanish

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- 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.

**Methods:**

- Individual and group productions & presentations
- Written, digital and audiovisual tools
- 2 communicational approaches:

1) Monographical lectures on various engineering specialisations with active contributions from 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.

# SPORTS AND PHYSICAL EDUCATION

LANGUAGES, MANAGEMENT, SOCIAL SCIENCES AND SPORT,

YEAR 2 - ENGINEERING PROGRAMME

AUTUMN SEMESTER

*Professor: Hervé Guillo*

## 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,
- encourage a sense of responsibility related to positive characterisation and identity.

## Course contents

Sports and physical education develop social communication through:

- various team activities (on small and large fields),
- autonomy projects (TA),
- physiological-directed activities (development of cardiopulmonary and muscular functions),
- organisation of sports events

## Course material

## Keywords

## Links with other programmes

LANGUAGE	ECTS CREDITS	LECTURES	TUTORIALS	LABO	PROJECT
French/English	*	0 hrs	0 hrs	30 hrs	0 hrs

\* 1 ECTS credit is awarded upon successful completion of Modern Languages 1 and 2 and Sport.

# CORPORATE SOCIAL RESPONSIBILITY

LANGUAGES, MANAGEMENT, SOCIAL SCIENCES AND SPORT,

YEAR 2 - ENGINEERING PROGRAMME

AUTUMN SEMESTER

*Professor: Benoît Hilloulin & Emmanuel ROZIERE*

## Objectives

- Giving data on global warming and other environmental issues
- Corporate social responsibility (CSR) gives data and methods to cope with social, economic and environmental issues
- How companies actually implement CSR

## Course contents

Issues:

- Introduction to systemic issues
- Global warming: theory, adaptation and mitigation
- Environmental and social issues
  - Methods: management of stakeholders, energy, design, welfare at workplace
  - Good practices: lectures by external speakers from industry

## Course material

ISO 26000

## Keywords

Global warming, social responsibility, systemic, stakeholders

## Links with other programmes

Energy, communication, project management

LANGUAGE	ECTS CREDITS	LECTURES	TUTORIALS	LABO	PROJECT
French	2	18 hrs	22 hrs	0 hrs	0 hrs

# MANAGEMENT AND THE BUSINESS ENVIRONMENT

LANGUAGES, MANAGEMENT, SOCIAL SCIENCES AND SPORT,  
YEAR 2 - ENGINEERING PROGRAMME  
AUTUMN SEMESTER

*Professor: Laurence Bertho*

## Objectives

Courses this year are intended to raise student awareness of economic and social sciences as well as the humanities. This semester comprises classes in law and business communication. In addition, tutorials provide specific support with regards to the student's personal development and career plans.

## Course contents

- Business communication:
  - Written and oral summaries, formal writing, public speaking, presentations,
  - Adapting to your audience, building a clear vision of your communication objectives,
  - Negotiation: active listening, reformulation, conflict management, situational analysis, understanding arguments and building adapted solutions while remaining focused on the interests of both parties.
  - Assertiveness: self-evaluation tool
  - Transactional Analysis principles
  - Non Violent Communication.
- Personal development and career plans:
  - Work on CVs, cover letters and preparation for internship interviews.
- Law:
  - Lectures on contract law. Written assessment.

## Course material

Don Miguel Ruiz, Les 4 accords toltèques  
Rosenberg, les Mots sont des Fenêtres et non des Murs

## Keywords

## Links with other programmes

LANGUAGE	ECTS CREDITS	LECTURES	TUTORIALS	LABO	PROJECT
French	1	12 hrs	22 hrs	0 hrs	0 hrs

# ELECTIVE 1 – ECOLOGICAL TRANSITION: CONSIDERATIONS AND IMPLEMENTATION

LANGUAGES, MANAGEMENT, SOCIAL SCIENCES AND SPORT,  
YEAR 2 - ENGINEERING PROGRAMME  
AUTUMN SEMESTER

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*Professor: Géraldine MOLINA*

## Objectives

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How can we think about and implement ecological transition? Will science, art and literature come to our rescue?

Modern companies are currently confronted with an unprecedented environmental crisis - rarefaction of resources, climate change, increased energy costs, degradation of ecosystems, poor air and poor environmental quality, reduction of the biodiversity, etc.- which merges into the global social and economic crisis. An exit would compel us to rethink in depth the models of action, production, management and the lifestyles in order to protect and improve the quality of the environment of which corporate survival and well-being depend intrinsically.

The engineers of the future will encounter these challenges and find ways to face them.

The course is intended to propose some thinking about a transition to new models, which could be together realistic, critical, constructive and pragmatic, in order to meet the environmental, social and technical contemporary challenges.

Together we will refer to several major thinkers and precursors of the ecological transition (Jacques Ellul, Hans Jonas, Rob Hopkins, Serge Latouche, etc.).

The classes will also aim at displaying and analyzing the concepts and the key notions of the ecological transition (environment, vulnerability, impact strength, adaptation, decrease, environmental quality, knowledge of uses, life modes, life cycles, dependence in the path, resistance and change management, programmed obsolescence, energy saving, informal economy, permaculture, circular economy, trajectory of a technical solution).

Beyond the acquisition of this knowledge, we will analyze and build some know-how in a pragmatic perspective derived from the experiences of several actors. Which obstacles, which levers and which resources may allow us to think the observation of these concrete working situations and to build projects and solutions in the ecological transition?

## Course contents

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In order to think about the role of engineers and to allow them to build strong skills and to plan effectively their reflection and actions with regard to these challenges, the teaching will offer an interdisciplinary perspective. An opening onto Engineering sciences will be proposed: environmental science, science of the universe, social sciences (history, sociology, environmental psychology).

Interdisciplinarity will enable the engineers to plan their future actions in a systemic way by analyzing the interactions between the physical phenomena, the technical concerns, the social dynamics such as the adaptation of the habits of the citizens) and the environmental impact.

A cultural opening will also enable the students to enhance these knowledge and know-how. Art expressions such as comic-strips, cinema and literature will also be welcome in order to think in a plural way the major contemporary challenges of the ecological transition.

## Course material

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## Keywords

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## Links with other programmes

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LANGUAGE	ECTS CREDITS	LECTURES	TUTORIALS	LABO	PROJECT
French	1	14 hrs	0 hrs	0 hrs	0 hrs

# ELECTIVE 2 - RELIGION & SOCIAL CHANGE IN CONTEMPORARY EUROPE AND NORTH AMERICA

LANGUAGES, MANAGEMENT, SOCIAL SCIENCES AND SPORT,  
YEAR 2 - ENGINEERING PROGRAMME  
AUTUMN SEMESTER

*Professor: Frédéric Dorel*

## Objectives

Religions are a major contemporary issue. Beyond offering new trends for personal growth in the 21st century, religions are intertwined with most contemporary concerns in the world: politics, sustainability, secularisms, various definitions of modernity and identity, science, technologies, reason.

This course is designed as an introduction to a general reflection on the relationships between religions and those temporal issues, with particular emphasis on 21st century Europe and North America.

When you have successfully completed this course, you will:

1. Understand the basic elements of the definitions scholars have given of religions
2. Be able to make use of the methods employed in the study of the sociology of religions to reflect on a community
3. Be able to explain some of the primary characteristics of the largest religions—including civil religions—as well as of the various secularisms
4. Gain insight into and be able to explain your understanding of the impact of religions on social life in the contemporary world
5. Gain insight into your own understanding of tolerance

## Course contents

Course is taught in English.

This is not a course on the history of religions. It is a course on the impact of contemporary beliefs on our world, on social and individual life, politics, science, etc., on the way religions contribute to the construction of our ideas and societies, social links, ethics, violence, solidarity, exclusion, etc.

We won't be discussing the issue of 'Why religions?'. We'll be more deeply interested in the issue of 'How religions?' i.e. the situation of religions in the 21st century world. What is the social role of religions today?

This course is not intended to be comprehensive, but a core of ideas around which you will complete your own emphasis. This course will be a tool-box, a general reflection on the relationships between religions and temporal issues, politics, science and technologies and finally with what is called reason, which can also be an additional religion or an additional magic mind.

PLAN:

Part 1 - Religions and private affairs.

Part 2 - Religions and public affairs: the political role of religions in Europe and the current tensions between Christianity, Secularisms and Islam.

- a. European Christianity and the issue of the Christian inheritance of Europe
- b. European secularisms
- c. Various theories in relation to secularisms
- d. European Islam: fears and facts
- e. Beyond radicalisms: a way towards a European Union religious balance?

Part 3 - Religions and public affairs: the political role of religions in North America and the current tensions between Christianity, Secularisms and several other religions.

- a. Main differences with the European perception of religions.
- b. US Christianity and the issue of the Christian inheritance of the US
- c. US secularisms and /or US Civil religion
- d. Canadian Christianity and the issue of the Christian inheritance of Canada

Part 4 - Canadian secularisms and /or Canada Civil religion

Conclusion

## Course material

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Full list will be provided.

## Keywords

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Religions are intertwined with most contemporary concerns: politics, sustainability, secularisms, various definitions of modernity and identity, science, technologies, reason.

How can we confront the various religious organisations with the various contemporary expectations? Our common ability to understand and manage fairly the religious diversity of our world will define tomorrows world, in order to try to live together and not only side by side.

## Links with other programmes

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English.

All the other elective courses taught by the CLES Department.

LANGUAGE	ECTS CREDITS	LECTURES	TUTORIALS	LABO	PROJECT
English	1	14 hrs	0 hrs	0 hrs	0 hrs

# ELECTIVE 3 - BRITISH POLITICS SINCE 1979: THATCHERISM AND ITS CONSEQUENCES

LANGUAGES, MANAGEMENT, SOCIAL SCIENCES AND SPORT,  
YEAR 2 - ENGINEERING PROGRAMME  
AUTUMN SEMESTER

*Professor: Spencer Hawkridge*

## Objectives

This course aims to identify and explain the ideology of Thatcherism and how that ideology changed British politics and society forever. The course will also consider the UK's relationship with Europe and the USA and some of its foreign policy interventions, particularly since 9/11.

## Course contents

Essentially the course will be broken down into seven topics:

1. The sick man of Europe – Why and to what extent had the UK become chronically ill during the 1970s.
2. The bitter medicine! – the ideology of Thatcherism – Free-market economics and the strong state.
3. The development of the persona of The Iron Lady – The Falklands, the IRA, the Miners' Strike, the SAS, the European rebate.
4. What were the social, economic and political consequences of Thatcherism in terms of improving the economy, making British society fairer, more equal and cohesive, and also in terms of the UK's standing in the world – was the UK still a joke?! Did Thatcherism change the British political landscape forever?
5. The UK's relationship with Europe and the European Union since 1979.
6. The UK's relationship with the USA and its participation in the wars in Iraq, Afghanistan, Libya and Syria.
7. Falling apart! - Why and to what extent is the UK falling apart and will this result in the independence of the Celtic nations or federalism? Is this phenomenon simply about nationalism or is it more about economics and the power to make social and economic decisions which benefit their country, rather than submitting to London-centric political and economic decision-making.

## Course material

## Keywords

## Links with other programmes

LANGUAGE	ECTS CREDITS	LECTURES	TUTORIALS	LABO	PROJECT
English	1	14 hrs	0 hrs	0 hrs	0 hrs

# ELECTIVE 4 - INNOVATION AND SOCIAL DYNAMICS

LANGUAGES, MANAGEMENT, SOCIAL SCIENCES AND SPORT,  
YEAR 2 - ENGINEERING PROGRAMME  
AUTUMN SEMESTER

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*Professor: Mickaël Nelson*

## Objectives

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- Provide keys to innovation as social fact.
- Facilitate the analysis of the situations of distribution or the failures of innovation, beyond the mere technological considerations.
- Supply bases to launch and support innovative projects.

Basics of Sociology and Sociology of Organizations:

- Historical reminder: definitions, traditions, methods and techniques. The development of organizations in their historic context; several authors whose ideas impact on organizations: Taylor, Fayol, Weber.
- A history of the Industrial Revolution
- The evolution of the forms of organization from Taylors production vision to our time.
- The evolution of various theories of organization (from the OST to the theory of contingencies).
- The current theories.

## Course contents

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A presentation of the theories on the development of innovation:

- Various examples and experience feedback (from the speakers and from the students)
- Small group activities (creativity, case studies, etc.).

Key concepts:

- Problematics, definitions and characteristics of innovation beyond the processes of technical creation
- Non-linear process and distribution: description of the favorable conditions. · Actors and environment: population key, role of the environment and consequences of innovation.
- Innovation in and by organizations: theory of organizations, structural opposition between "organization"; and "innovation".
- Implementation of innovation: concerns, best practices.

## Course material

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## Keywords

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## Links with other programmes

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LANGUAGE	ECTS CREDITS	LECTURES	TUTORIALS	LABO	PROJECT
French	1	14 hrs	0 hrs	0 hrs	0 hrs

# ELECTIVE 5 - DESIGN & ICONOGRAPHY

LANGUAGES, MANAGEMENT, SOCIAL SCIENCES AND SPORT,  
YEAR 2 - ENGINEERING PROGRAMME  
AUTUMN SEMESTER

*Professor: Josep Pinyol Vidal / Florent Laroche*

## Objectives

The English word "design", which was adopted in the ornamental and industrial fields in the esthetic dimension of objects, echoes etymologically with the French word "drawing".

However, much beyond the intellectual conception of the object or the product, the French word also evokes the concrete idea of the image applied to a support.

The object is a sign combining the function and the shape. We can identify the period of time of manufacturing of an automobile by its shape. However, its function remains essentially identical.

Objectives:

- become acquainted with the main stylistic and esthetic features.
- Read an image by applying a method - iconography and iconology.

Number of students: no limit

## Course contents

1. Concepts: space, volume, light, texture, composition, perspective
2. Trends in taste and style
3. Iconography and iconology
4. Interaction of dominant aesthetics: political, religious, industrial etc
5. The eclecticism of industrial society
6. Image and propaganda.
7. Technique and aesthetics (science fiction images)
8. History of engineering schools
9. Industrial Revolutions

## Course material

## Keywords

## Links with other programmes

LANGUAGE	ECTS CREDITS	LECTURES	TUTORIALS	LABO	PROJECT
French	1	14 hrs	0 hrs	0 hrs	0 hrs

# ELECTIVE 6 - ENTREPRENEURIAL MANAGEMENT

LANGUAGES, MANAGEMENT, SOCIAL SCIENCES AND SPORT,  
YEAR 2 - ENGINEERING PROGRAMME  
AUTUMN SEMESTER

*Professor: Lise Ferraton*

## Objectives

The course questions various definitions of success and entrepreneurship.

## Course contents

Entrepreneurs come to show and to highlight subjects such as:

- What is success? A personal definition, career success, personal success, successful life, corporate success, successful groups and society etc.
- Reconciling values and economic performance. Corporate Social Responsibility.
- Does daring equate with success?
- Are innovative ideas essential for success? Creativity, innovation and differentiation
- Can one succeed alone? Independent working does not mean working alone. Benefits and strengths of a team. Networking.
- Does entrepreneurship really require high financial input?
- Methods for success. Business case approach.

## Course material

## Keywords

## Links with other programmes

LANGUAGE	ECTS CREDITS	LECTURES	TUTORIALS	LABO	PROJECT
French	1	14 hrs	0 hrs	0 hrs	0 hrs

# ELECTIVE 7 - HISTORY OF THE EUROPEAN IDEA

LANGUAGES, MANAGEMENT, SOCIAL SCIENCES AND SPORT,

YEAR 2 - ENGINEERING PROGRAMME

AUTUMN SEMESTER

*Professor: Olivier Menard*

## Objectives

This seminar will drive us from the first human times to the eve of the constitution of the European community in 1957, at the dawn of the creation of Europe.

## Course contents

We will discuss the reality of a European world and the conception of a world which was European - or more specifically euro-centered - for a long time (as still shown by small gems from the *Baccalauréat* examinations, reminding us that Europe stands at the center of the world because it stands at the center of the maps...). We will also discuss several utopian organizational projects for Europe, apparently ensuring peace as well as social and economic well-being with respectable purposes, but sometimes hiding more questionable objectives.

We will then examine how Europe was often regarded as a common enemy and not as a common project. It will also be an opportunity to put the question of the opening of Europe in history: the question of the opening to Turkey and that of the Mediterranean Union which is reminiscent of the idea of EurAfrica.

We will then travel from Pierre Dubois' Europe to Richard de Coudenhove-Kalergi's Europe, from that of the Duke of Sully to that of the Count of Saint-Simon, via Rousseau's and Kant's works.

By integrating yesterday's dreams, we will then be able to better prepare those of tomorrow.

And in a way producing some European ideas while studying in Nantes is "natural", because some engineer in Hydraulics once suggested - in the 1920s - to relaunch the European peace idea starting from a harbour in the Saint-Nazaire region, which would have become the entry port of some European economic recovery. Europe being saved by Loire-Atlantique... Although being a totally utopian idea, we can acknowledge that the sight of Le Pouliguen as the substitute of Brussels would have had a lot of style.

## Course material

## Keywords

## Links with other programmes

LANGUAGE	ECTS CREDITS	LECTURES	TUTORIALS	LABO	PROJECT
French	1	14 hrs	0 hrs	0 hrs	0 hrs

# ELECTIVE 8 – SHAKESPEARE'S PRINCIPLE PLAYS

LANGUAGES, MANAGEMENT, SOCIAL SCIENCES AND SPORT,  
YEAR 2 - ENGINEERING PROGRAMME  
AUTUMN SEMESTER

*Professor: Christine Evain / Spencer Hawkrigde*

## Objectives

What is the purpose of literature? Is it of any use to someone in prison? This course will take its cue from Laura Bates research and mainly from her book entitled, *Shakespeare Saved My Life: Ten Years in Solitary with the Bard*. Professor Bates tells the story of federal prison inmate Larry Newton, who was (and most probably still is) locked up in solitary confinement. Larry Newton participated in Bates' *Shakespeare in Shackles* literature class, and, according to his own testimony, this class gave him a new lease of life.

It is quite obvious that our elective course cannot match Laura Bates dedication to prisoners. However, we will try to share our interest in literature with volunteer inmates by holding two of our classes in Nantes prison. We will also try to reflect on the value of art and literature in relation to the promotion of art and reading in prison. In order to do so, we will work on some of the challenging questions from Shakespeares works (focusing on such topics as pride, honour, conscience, love, hate and revenge) - questions which, we hope, encourage not only prisoners, but also ourselves, to consider the world in a new light.

## Course contents

In-depth study of 6 plays by Shakespeare:

- 2 comedies
- 2 tragedies
- 2 historical plays

## Course material

The complete text for all plays can be found on the following website: <http://nfs.sparknotes.com/>  
Additional resources are to be found on MOODLE.

## Keywords

comedies, tragedies, historical plays, promotion of art, reading in prison, pride, honour, conscience, love, hate and revenge.

## Links with other programmes

- General English (a very good language level is required for this course).

LANGUAGE	ECTS CREDITS	LECTURES	TUTORIALS	LABO	PROJECT
English	1	14 hrs	0 hrs	0 hrs	0 hrs