

Texts for e-study guides Leiden, Delft and Rotterdam

'General Intro' when page opens:

LDE minor Frugal Innovation for Sustainable Global Development, 2018-2019

The LDE minor Frugal Innovation for Sustainable Global Development offers in-depth insight into how and under which conditions frugal innovation can be accomplished and contribute to sustainable global development. Frugal innovation is a recent manifestation of innovation which centres on the (re)design of products, services and systems, thereby decreasing price and production costs without compromising on utility and ease of use. One can think of mobile banking (m-Pesa; Zoono), more affordable health appliances ([Frugal Thermometer](#)), context-specific irrigation systems or weather stations (<http://tahmo.org/about-tahmo-2/>) and low-priced sustainable energy sources.

Frugal Innovation is increasingly seen as a promising way to overcome constraints in, for example, (access to) health, energy, water and other facilities and amenities for people who live and work in low income and/or resource constrained environments, either in the Global South or the Global North. In this way, frugal innovation can contribute to sustainable global development by addressing a number of Sustainable Development Goals (SDGs). The United Nations SDGs focus on seventeen global challenges and topics such as climate change, health and sanitation, energy, poverty, migration, income gaps and social inclusion.

In this minor you will learn how frugal innovation can be defined and analysed; what frugal innovation implies for technology, entrepreneurship and development; and how and under which conditions frugal innovation can contribute to the realization of a number of SDGs. As frugal innovation demands an interdisciplinary approach this minor combines the unique knowledge and expertise from the universities of Leiden, Delft and Rotterdam. In terms of learning methods, lectures, readings, online-learning tools, and internships are combined with practical expertise and experience of NGO's, businesses and policy makers. The minor is organized by the Centre for Frugal Innovation in Africa (CFIA) (www.cfia.nl).

Maximum number of students: 30

Prospectus number:

Number study activity:

Language: English

'Links' menu below the General Intro

Link 'Courses'

Course	Semester	Block	EC	Level
Kick-off: 'Introduction to the Minor Frugal Innovation for Sustainable Global Development'	1	1	1	200
Technology and Frugal Innovation	1	1	4	200
Entrepreneurship and Frugal Innovation	1	1	4	200
Frugal Innovation for Development	1	1	4	200
Pressure Cooker	1	1	2	300
Internship Preparation	1	2	2	200
Internship	1	2	12	300
Internship Reflection & Evaluation ('Welcome Back Session')	1	2	1	200

Detailed course descriptions: see this document from page 6 onwards

Link 'Structure of the Minor'

The minor consists of one quarter (for Erasmus University students) or two quarters (=1 semester, for TU Delft and Leiden University students). Each quarter consists of two 15 ECTS modules. The first quarter consists of an introduction module, three thematic modules and a pressure cooker. Each participating university is responsible for one thematic module. The introduction module and pressure cooker will engage various lecturers from the three universities. In terms of learning methods, lectures, readings, laboratory settings, and online-learning tools are used in combination with practical expertise and experience of NGO's, businesses and policy makers.

The second quarter consists of an internship abroad. After a one week preparation course in the Netherlands you will stay abroad for 10 weeks to do your internship. Internships are done in groups of three students. Upon return there will be a 'come back week' in which you present and reflect on your internship (results).

First quarter

Introduction to Frugal Innovation // Leiden: Dr. A.H.M. Leliveld; Delft: Prof. dr. C.P. van Beers, Rotterdam: Prof. dr. P. Knorringa

Technology and Frugal Innovation // Delft: Prof. dr. C.P. van Beers, Dr.ir. L. Lindeboom, Dr. ir. J.C. Diehl

Entrepreneurship and Innovation // Erasmus: Prof. dr. P. Knorringa, Dr. G. Gomes

Frugal Innovation for Development // Leiden: Dr. A.H.M. Leliveld

Pressure Cooker // Leiden, Delft, Rotterdam

Second quarter

Internship preparation // Leiden: Dr. A.H.M. Leliveld, Erasmus: E.S. Hesselink

Internship // Leiden: Dr. A.H.M. Leliveld, Erasmus: E.S. Hesselink (coordination), and various supervisors from the three universities depending on the internships

Presentation and Evaluation // lecturers and supervisors from the three universities involved in the minor

Link 'Target Group'

Are you up for an interdisciplinary challenge? Do you see the mutual benefit of integrating social, entrepreneurial and technological skills when working on the future? Would you like to apply your academic knowledge to practical case studies and real-life situations, including an internship abroad? Are you interested in looking at a new innovation manifestation from an integrative technological, entrepreneurial and developmental perspective? Do you like working together with students from Leiden, Delft and Rotterdam? If you are answering these questions affirmatively, you are the ideal candidate for this English-language minor!

The minor is open to all third-year bachelor students of Leiden University, Erasmus University Rotterdam and Delft University of Technology, regardless of study and disciplinary background. We think the minor is in particular attractive for students in anthropology, sociology, area studies, economics, development studies, law, health, housing, water, business studies, industrial design, civil engineering, technology and innovation studies, and/or to students who want to link their study to or become engaged in tackling concrete societal challenges. We are looking for a high diversity of interests and backgrounds, in order to have strong cross-disciplinary teams.

Students from Rotterdam can choose to only take part in Module A (15 ECTS) in order to avoid study delay. Students from Delft and Leiden can take both modules making up a 30 ECTS minor.

Link 'Registration and contact details'

In order to do a minor at a LDE university other than your home university, you must have an active or a definitive enrolment for a Bachelor's programme at your home university before 1 September 2018. Beside an active enrolment at your home university you also need an active registration as a guest-/minor-student at the other participating LDE universities. Erasmus University, Leiden University and TU Delft will exchange the necessary registration information (your name, address, contact details, etc.), but you also need to take action.

Please register as follows for the active enrolment at your home university:

TU Delft students:

- Register your minor preferences via Osiris from 1 May up to 31 May.

- Make sure you have an active registration as a bachelor student for 2018-2019 at your home university TU Delft before 1 September 2018!

EUR students:

- Register your minor preferences via Osiris from 1 May up to 31 May.
- Make sure you have an active registration as a bachelor student for 2018-2019 at your home university EUR before 1 September 2018!

Leiden University students:

- Register for the minor in uSis from 1 May up to **1 June 2018**. This is a different deadline than for other minor programmes!
- Make sure you have an active registration as a bachelor student for 2018-2019 at your home university Leiden University before 1 September 2018!!

Please register as follows for the active registration as a guest-/minor-student at the other participating universities:

Leiden University students

For enrolling as a minor-student at TU Delft:

1. Register yourself as a minor-student via www.studielink.nl (see factsheet)
2. Immediately after registration in Studielink, you must upload a passport photo for your TU Delft campus card via www.e-service.tudelft.nl. You can log in with your NetID, which is sent to you automatically after your registration in Studielink.

For enrolling as a guest student at Erasmus University:

1. You will receive an email requesting you to upload a passport photo. Make sure that you upload your passport photo before 1 September. Without a passport photo, you cannot be enrolled as a guest student at Erasmus University.

TU-Delft students

For enrolling as a minor-student at Leiden:

1. You will receive an email regarding your registration as contract student and an email with the request to activate your new UCLN account. After activating this, you can access Blackboard Leiden that will function as the electronic learning environment.

For enrolling as a guest student at Erasmus University:

1. You will receive an email requesting you to upload a passport photo. Make sure that you upload your passport photo before 1 September. Without a passport photo, you cannot be enrolled as a guest student at Erasmus University.

Erasmus University students

For enrolling as a minor-student at Leiden University:

1. You will receive an email regarding your registration as contract student and an email with the request to activate your new UCLN account. After activating this, you can access Blackboard Leiden that will function as the electronic learning environment.

For enrolling as a minor-student at TU Delft:

1. Register yourself as a minor-student via www.studielink.nl (see factsheet).
2. Immediately after registration in Studielink, you must upload a passport photo for your TU Delft campus card via www.e-service.tudelft.nl. You can log in with your NetID, which is sent to you automatically after your registration in Studielink.

CV and motivation letter

If you are interested to follow this minor you also need to submit a CV and a letter of motivation (in English) of maximum two A4s along with your registration. Your CV and letter of motivation needs to be sent to the minor coordinators Dr. André Leliveld, Emma Hesselink and Maaïke Westra, using the following e-mail address: minorfrugalinnovation@asc.leidenuniv.nl

In the letter of motivation you have to motivate your choice for the minor and present your personal learning objectives. Please, also point out proven affinity with (some of) the main topics addressed in the minor.

The maximum number of students that can enroll in this minor is 30. Besides the quality of the motivation letter, we aim to select an equal number of participants from the three participating universities. This will be 10 students from each university. If a lower number of students from one of the universities enrolls or is selected, vacant places will be allocated to students from the other two universities (equally spread).

Contact

For general questions regarding the Minor Frugal Innovation for Sustainable Global Development you can contact the minor coordinators Dr. André Leliveld, Emma Hesselink and Maaïke Westra. Please, send your inquiries to: minorfrugalinnovation@asc.leidenuniv.nl

Course ‘Kick-off: introduction to the LDE Minor Frugal innovation for Sustainable Global Development’

Year:	2018-2019
Catalog number:	
Teachers:	Prof.dr. C. (Cees).P. van Beers (TBM/TU Delft) Prof.dr. P. (Peter) Knorringa (ISS/EUR) Dr. A. (André) H.M. Leliveld (ASCL/UL) Guest lecturers
Language:	English
Blackboard:	Yes
EC:	1
Level:	200
Period:	Semester 1, Block I

Admission requirements

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Description

In this short ‘kick-off’ course for the LDE Minor Frugal Innovation for Sustainable Global attention will be paid to 1) the emergence of the concept of Frugal Innovation, the underlying concept of frugality and historical predecessors, such as the appropriate technology movement, 2) the UN Sustainable Development Goals, and 3) the debate on how Frugal Innovation could contribute to achieving these goals and which actors are involved. The introduction forms the basis needed to study the concept of Frugal Innovation from the perspectives of Technology, Entrepreneurship and Development and to understand whether and how it can affect the UN Sustainable Development Goals. In interactive sessions students will also get acquainted with each other and the teaching team. Detailed information about the minor programme will be provided during this introductory course, including the internships for which students have to choose in an early stage to allow for proper preparation.

Course objectives

After this course students are able to:

- Describe what frugal innovation as a distinct manifestation of innovation entails and how it differs from and relates to other innovation manifestations;
- Describe the history and rationale behind the Sustainable Development Goals
- Identify and describe the basics of three perspectives (technology, entrepreneurship, development) in the academic debate surrounding frugal innovation;
- Identify and describe the roles of the various actors involved in frugal innovation
- Develop debating skills and critical reading skills.

- To understand what the internships in the minor are about and what is needed in terms of practical preparations

Timetable

Mode of instruction

Expert lecturers, hands-on group work and in-class assignments

Course Load

28 total hours of study:

* Time spent on attending lectures and in-class assignments: 18 hours

* Time spent for studying the compulsory literature: 10 hours

Assessment method

Assessment

During our course, we will do a step-wise in-class assignment. At the end of the course you will need to hand in this assignment. In addition, your participation in the course will be part of the assessment.

Weighing

Final grade: 80% in-class assignment + 20% participation.

The final grades for the in-class assignment and participation should be 6,0 or higher. Together they should be a 6,0 or higher to pass the course

Resit

The students are allowed one re-sit for the in-class assignment. It is not allowed to re-sit an examination or assignment for which they have received a pass (6,0 or higher). It is not allowed to re-sit the in-class assignment which they haven't done during the first occasion in class. The re-sit format needs to be discussed with the teachers of the course in line with examination regulations.

Exam Review

Attendance

All students have to be present in all sessions. The teachers and the minor coordinator have to be notified in advance for the absences. The students who are absent more than twice will not pass the module.

Blackboard

In this course, Blackboard is used to present course information, notify you of changes to the course and to make course materials available.

Reading list

Scientific and professional papers and teaching cases, to be provided or indicated via Blackboard.

Registration

You register for the whole minor and for each individual course in uSis.

Contact

If you have questions, please contact the minor coordinators (André Leliveld, Emma Hesselink and Maaïke Westra) at minorfrugalinnovation@asc.leidenuniv.nl

Course 'Frugal Innovation and Technology'

Year:	2018-2019
Catalog number:	
Teachers:	Prof. dr. C. (Cees).P. van Beers (TBM/TU Delft) Dr. R. (Ralph) Lindeboom (CEGS/TU Delft) Dr. J.C. (Jan-Carel) Diehl (IDE/TU Delft) Guest lecturers
Language:	English
Blackboard:	Yes
EC:	4
Level:	200
Period:	Semester 1, Block I

Admission requirements

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Description

This course is one of three thematic modules in the LDE Minor 'Frugal Innovation for Sustainable Global Development'. Because students in this minor may not have a purely technological background, this course on Technology and Frugal Innovation will start from the point of view of the SDGs and will then attach specific technological frameworks, theories and practices to this SDG. During an introduction day, students first become acquainted with the socio-cultural and socio-economic impact of technology in relation to the SDGs. An introduction is given in the theory and history behind the frugal innovation process; co-creation in a cultural, economic and religious setting as the core of the product development implementation and innovation cycle. Students learn about Technology Readiness Levels, and develop answers to questions such as: what implications do different cultural contexts have for product design? What is frugal technology and how does it come about? And how can we use technology in a coordinated way to solve problems? We will join academic debates about, among other things, frugality, early commitment, value sensitive design, management of technology, and science, technology & innovation development, which focus on different forms of technological development.

After this introduction three strategic themes are chosen to go more in-depth and to which general concepts and notions are applied: 1) clean water and sanitation (SDG 6); 2) the link of SDG 6 with affordable and clean energy (SDG 7); and 3) medical diagnostics targeting good health and well-being (SDG 3).

The first strategic theme is access to clean drinking water and sanitation. Access to clean drinking water is only one side of the coin, because the increasing degree of urbanization puts

the natural hydrological cycle under great pressure. Discharge of municipal and industrial waste water increasingly threatens clean water reservoirs, which due to the growing water demand are already experiencing seasonal shortages in many areas in Southeast Asia and Sub-Saharan Africa. By means of practical cases students get acquainted with basic (frugal) concepts in water purification and hydrometry and/or weather forecasting. The connection with energy and health is also discussed.

The second strategic theme is related to affordable and clean energy. Access to cheap and clean energy is an enabler for economic growth, stimulates activity and is an important factor in improving people's well-being. Within the limited time available this module focuses mostly on the role of anaerobic digestion, a sanitation technology, in the development of resilient smart energy grids. Where necessary basic sustainable energy concepts such as the 1st and 2nd law of thermodynamics, the energy balance and primary energy are discussed.

The last part of the Technology course focuses on good health and well-being. Researchers at TU Delft work together with designers, doctors and local parties on integrated frugal solutions. The aim is to design radically new diagnostic equipment that optimally functions within the specific characteristics of local health systems. Students will take on the challenge to adapt the developments of new medical equipment to the needs and requirements of local healthcare systems, again through case driven education.

Course objectives

After this course students are able to:

- Reproduce and interpret knowledge about frugal innovation from a technology perspective;
- Apply this perspective critically to case studies from different parts of the world;
- Analyze and interpret the potential of frugal innovation in the pursuit of the UN Sustainable Development Goals from a technology perspective;
- Learn from other disciplines, in particular technology studies, and relate this knowledge to and integrate into their own disciplinary background, and
- From there, make a constructive contribution to the debate on frugal innovation and sustainable global development.

Timetable

Mode of instruction

Expert lecturers, practical cases, field visit

Course Load

112 total hours of study:

- Time spent on attending classes:
- Time spent for studying the compulsory literature:
- Time spent on assignment:

Assessment method

Assessment

Written assignment in which students choose one of the three themes and describe a frugal innovation in a specific local context. Students describe and assess the technological factors explained during the course of this specific innovation. For students who also take part in the internship, it is recommended they use their internship destination as case study.

Participation in lectures, field visit and tutorial focused on putting knowledge to practice and online course work. During our course, we will do a step-wise in-class assignment. At the end of the course you will need to hand in this assignment. In addition, your participation in the course will be part of the assessment.

Weighing

Final grade: 80% written assignment + 20% participation

The final grades for the written assignment and participation should be 6,0 or higher. Together they should be a 6,0 or higher to pass the course

Resit

The students are allowed one re-sit for the written assignment. It is not allowed to re-sit an examination or assignment for which they have received a pass (6,0 or higher). It is not allowed to re-sit the in-class assignment which they haven't done during the first occasion. The re-sit format needs to be discussed with the teachers of the course in line with examination regulations.

Attendance

All students have to be present in all sessions. The teachers and the minor coordinator have to be notified in advance for the absences. The students who are absent more than twice will not pass the module.

Blackboard

In this course, Blackboard is used to present course information, notify you of changes to the course and to make course materials available.

Reading list

Scientific and professional papers and teaching cases, to be provided or indicated via Blackboard.

Registration

You register for the whole minor and for each individual course in uSis.

Contact

If you have questions, please contact the minor coordinators (André Leliveld, Emma Hesselink and Maaïke Westra) at minorfrugalinnovation@asc.leidenuniv.nl

Course 'Frugal Innovation and Entrepreneurship'

Year:	2018-2019
Catalog number:	
Teachers:	Prof. dr. P. (Peter) Knorringa (ISS/EUR) Dr. G. (Georgina) Gomes (ISS/EUR) Guest lecturers
Language:	English
Blackboard:	Yes
EC:	4
Level:	200
Period:	Semester 1, Block I

Admission requirements

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Description

This course is one of three thematic modules in the LDE Minor 'Frugal Innovation for Sustainable Global Development'. The course on entrepreneurship connects the thematic modules on Technology and on Development. It starts from how entrepreneurs see opportunities to use new and adjusted technologies to develop new business models, and it prepares the ground for the developmental implications of these entrepreneurial activities. An important thread running through the block is the importance of co-creation in that successful entrepreneurs work more and more in flexible networks or clusters with people with complementary competences. The block will use a few more in-depth cases running through, one for each of the main types of entrepreneurs, as well as an integrative case study towards the end with a focus on necessity entrepreneurship with strong developmental implications.

The first part of the block introduces characteristics and motivations of individual entrepreneurs. We distinguish between growth-oriented / opportunity-driven, survival / necessity and social entrepreneurs as the main types of entrepreneurship relevant for frugal innovation.

The second part identifies the external environment for local entrepreneurs. We examine what types of value chains they are involved in, what are the requirements of serving distinct market segments like the Bottom of the Pyramid and the new middle classes, the role of the institutional and regulatory environment, and it introduces the importance and challenges with compliance to sustainability standards and Corporate Social Responsibility.

The final part of the block focuses on different business models for frugal innovation, competences required to achieve profitability and their prospective developmental implications like employment generation, as a bridge to the third block on development.

Course objectives

After this course students are able to:

- Reproduce and interpret knowledge about frugal innovation from an entrepreneurship perspective;
- Apply this perspective critically to case studies from different parts of the world;
- Analyze and interpret the potential of frugal innovation in the pursuit of the UN Sustainable Development Goals from an entrepreneurship perspective;
- Learn from other disciplines, in particular studies on entrepreneurship in Bottom of the Pyramid markets and development contexts, and relate this knowledge to and integrate into their own disciplinary background, and
- From there, make a constructive contribution to the debate on frugal innovation and sustainable global development.

Timetable

Mode of instruction

Expert lecturers, case studies, online course work

Course Load

112 total hours of study:

- Time spent on attending classes:
- Time spent for studying the compulsory literature:
- Time spent on assignment:

Assessment method

Assessment

Written assignment: students will write an individual essay on a topic related to the link between a particular type of entrepreneurship and business models for Frugal Innovation. The topic and central question of the essay need to be approved by the course leader in advance. Students who will go for an internship are advised to choose a type of entrepreneurship and business model they are likely to encounter in their internship.

Participation in lectures and online course work.

Weighing

Final grade: 80% written assignment + 20% participation

The final grades for the written assignment and participation should be 6,0 or higher. Together they should be a 6,0 or higher to pass the course

Resit

The students are allowed one re-sit for the written assignment. It is not allowed to re-sit an examination or assignment for which they have received a pass (6,0 or higher). It is not allowed to re-sit the in-class assignment which they haven't done during the first occasion. The re-sit format needs to be discussed with the teachers of the course in line with examination regulations.

Exam Review

Attendance

All students have to be present in all sessions. The teachers and the minor coordinator have to be notified in advance for the absences. The students who are absent more than twice will not pass the module.

Blackboard

In this course, Blackboard is used to present course information, notify you of changes to the course and to make course materials available.

Reading list

Scientific and professional papers and teaching cases, to be provided or indicated via Blackboard.

Registration

You register for the whole minor and for each individual course in uSis.

Contact

If you have questions, please contact the minor coordinators (André Leliveld, Emma Hesselink and Maaike Westra) at minorfrugalinnovation@asc.leidenuniv.nl

Course ‘Frugal Innovation for Development’

Year:	2018-2019
Catalog number:	
Teachers:	Dr. A. (André) H.M. Leliveld (ASCL/UL) Guest lecturers
Language:	English
Blackboard:	Yes
EC:	4
Level:	200
Period:	Semester 1, Block I

Admission requirements

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Description

This course is then third thematic module in the LDE Minor ‘Frugal Innovation for Sustainable Global Development’. Now that students have been introduced to the entrepreneurial and technological aspects of frugal innovation, they need to be made aware of the context in which these two aspects play. In the literature, it is often assumed that frugal can contribute to the improvement of the living conditions of poorer people and the realization of the SDGs, but whether this potential is also realized depends on many factors. This course has three main themes: the actors involved, local context analysis and measuring impact.

Firstly, students get acquainted with academic debates about the access to and use of Frugal Innovations by different groups in society (male / female, old / young, poor / rich, etc.) and the differentiated effects of frugal innovations within society, both for users and for entrepreneurs. Issues of agency, power and inequality will be addressed, and will be linked to discussions in the previous courses on technology and entrepreneurship. This also provides further insights into the role of various actors in frugal innovation and their interaction (consumers, producers, entrepreneurs, politicians, policy makers, etc.).

Secondly, frugal Innovation arise from or come into being in a specific context, in which existing social, economic and political institutions have a major influence on the way in which frugal innovations take shape. Students learn about the interaction between different types of institutions and the establishment of irugal Innovations, and the effects and impact of these innovations on local, regional and international development processes.

Thirdly, attention is also paid to how you could measure the effects and impact of frugal innovations on local as well as regional or national development. This is a new field of study which needs rapid development. Students are introduced to current measuring models and learn how they can take measuring impact into account during their internships.

Course objectives

After this course students are able to:

- Reproduce and interpret knowledge about frugal innovation from a developmental perspective;
- Apply this perspective critically to case studies from different parts of the world;
- Learn from other disciplines, in particular development studies, and relate this knowledge to and integrate into their own disciplinary background;
- to integrate the development perspective into the visions from technology and entrepreneurship in order to arrive at a more integrated understanding on how frugal innovations relates to various dimensions of development as defined in the SDGs.
- From there, make a constructive contribution to the debate on frugal innovation and sustainable global development.

Timetable

Mode of instruction

Expert lecturers, case studies, online course work

Course Load

112 total hours of study:

- Time spent on attending classes:
- Time spent for studying the compulsory literature:
- Time spent on assignment:

Assessment method

Assessment

Written assignment: students will be presented a case either through video or a written case (to be further determined) on which they have to comment in a three page essay, using insights gained from the frugal innovation and development course. The dimensions on which they have to comment and along which they have to structure their essay will be provided in class to ensure a balanced assessment.

Participation in class and online course work.

Weighing

Final grade: 80% written assignment + 20% participation

The final grades for the written assignment and participation should be 6,0 or higher. Together they should be a 6,0 or higher to pass the course

Resit

The students are allowed one re-sit for the written assignment. It is not allowed to re-sit an examination or assignment for which they have received a pass (6,0 or higher). It is not allowed to re-sit the in-class assignment which they haven't done during the first occasion. The re-sit format needs to be discussed with the teachers of the course in line with examination regulations.

Exam Review

Attendance

All students have to be present in all sessions. The teachers and the minor coordinator have to be notified in advance for the absences. The students who are absent more than twice will not pass the module.

Blackboard

In this course, Blackboard is used to present course information, notify you of changes to the course and to make course materials available.

Reading list

Scientific and professional papers and teaching cases, to be provided or indicated via Blackboard.

Registration

You register for the whole minor and for each individual course in uSis.

Contact

If you have questions, please contact the minor coordinators (André Leliveld, Emma Hesselink and Maaïke Westra) at minorfrugalinnovation@asc.leidenuniv.nl

Course 'Pressure Cooker'

Year:	2018-2019
Catalog number:	
Teachers:	Various lecturers from Leiden, Delft and Erasmus
Language:	English
Blackboard:	Yes
EC:	2
Level:	300
Period:	Semester 1, Block I

Admission requirements

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Description

Part A of the minor is concluded with a pressure cooker in which students apply the acquired knowledge in Part A to arrive at a number of detailed ideas for a Frugal Innovation that can contribute to solving a concrete problem within one of the SDGs. In doing so, they have to consider and think through and combine elements from the Technology-Entrepreneurship-Development perspectives. Cases / problems are obtained from the practice of companies and NGOs that will be invited to do provide 'challenges'. The outcome of the pressure cooker are reports, video presentations or any other different visual or written form (determined in consultation with the client), which is presented to the company or the NGO at the end of the pressure cooker. Outcomes of the pressure cooker can serve as preparation for and input of the internship for those students who do an internship. For students from the EUR for whom this minor is a 15 ECTS minor, the pressure cooker is the concluding part of the minor.

Course objectives

After this course students are able to:

- To apply the technology-entrepreneurship-development perspective nexus to real life challenges in frugal innovation;
- To work in multidisciplinary groups, and relate this knowledge to and integrate into their own disciplinary background;
- From there, make a constructive contribution to the debate on frugal innovation and sustainable global development.

Timetable

Mode of instruction

Pressure cooker

Course Load

56 total hours of study:

- Time spent on attending pressure cooker:
- Time spent for studying the compulsory literature:

Assessment method

Assessment

- The outcome/output developed during the pressure cooker
- Participation in the pressure cooker

Weighing

Final grade: 60% outcome/output + 40% participation

The final grades for the outcome/output and participation should be 6,0 or higher. Together they should be a 6,0 or higher to pass the course

Resit

A re-sit for the pressure cooker is not possible. In case a student is not able to participate in the pressure cooker an alternative assignment will be given. This assignment needs to be discussed with the teachers of the course in line with examination regulations.

Exam Review

Attendance

All students have to be present in the pressure cooker. The teachers and the minor coordinator have to be notified in advance for the absences. The students who are absent more than one day will not pass the module.

Blackboard

In this course, Blackboard is used to present course information, notify you of changes to the course and to make course materials available.

Reading list

Scientific and professional papers and teaching cases, to be provided or indicated via Blackboard.

Registration

You register for the whole minor and for each individual course in uSis.

Contact

If you have questions, please contact the minor coordinators (André Leliveld, Emma Hesselink and Maaïke Westra) at minorfrugalinnovation@asc.leidenuniv.nl

Course ‘Internship Preparation’

Year:	2018-2019
Catalog number:	
Teachers:	Dr. A. (André). H.M. Leliveld, E. (Emma) S. Hesselink, MSc, guest lecturers from Leiden, Delft and Erasmus
Language:	English
Blackboard:	Yes
EC:	2
Level:	200
Period:	Semester 1, Block II

Admission requirements

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Description

For those students who will participate in part B of the minor, the pressure cooker can be seen as a stepping stone towards the internship. During the pressure cooker students will have to put theories to practice. This experience is also key during the internship but in case of the internship is brought two steps further by first, applying the acquired knowledge in a real life situation outside the walls of a classroom, and second, by doing so in a different cultural environment from their own. In the preparation course of the internship, the students will work on their Internship Plan. . Also, a guest lecture on safety while working abroad is provided. Students also get the opportunity during the Internship Preparation course to start working on their internship assignment. They will need to get acquainted with the host country, its history and culture, and the host organization they will start working for. During working groups and individual meetings, students are guided by their internship supervisor and the internship coordinator.

Course objectives

After this course students are able to:

- Get a realistic overview of their tasks and assignments during the internship
- Plan their activities during the internship
- Reflect on safety and cultural issues in their host country that relate to their internship

Timetable

Mode of instruction

In-class group assignments, in-class individual assignments

Course Load

56 total hours of study:

- Time spent in class:
- Time spent on assignments:
- Time spent on compulsory readings:

Assessment method

Assessment

- The individual internship plan
- Participation in class

Weighing

Final grade: 70% internship plan + 30 % participation in class

The final grades for the internship plan and participation should be 6,0 or higher. Together they should be a 6,0 or higher to pass the course

Resit

A re-sit for the internship preparation course is not possible. In case a student is not able to participate in the course an alternative assignment will be given. This assignment needs to be discussed with the teachers of the course in line with examination regulations.

Exam Review

Attendance

All students who go for an internship abroad have to be present in the course. The teachers and the minor coordinator have to be notified in advance in case of absences. The students who are absent more than one day will not pass the module.

Blackboard

In this course, Blackboard is used to present course information, notify yourself of changes to the course and to make course materials available.

Reading list

Scientific and professional papers and teaching cases, to be provided or indicated via Blackboard.

Registration

You can register for the whole minor and for each individual course in uSis.

Contact

If you have questions, please contact the minor coordinators (André Leliveld, Emma Hesselink and Maaïke Westra) at minorfrugalinnovation@asc.leidenuniv.nl

Course 'Internship'

Year:	2018-2019
Catalog number:	
Teachers:	Dr. A. (André). H.M. Leliveld, E. (Emma) S. Hesselink, MSc, various supervisors from Leiden. Delft and Erasmus
Language:	English
Blackboard:	Yes
EC:	2
Level:	300
Period:	Semester 1, Block II

Admission requirements

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Description

The internship comprises +- 10 weeks abroad. During the internship the students will work on an assignment, which can be more academically or more practically oriented. Students are divided into groups of three, ideally with one student from each university. In this way, they bring together their knowledge base and integrate it with that of the others.

Internship vacancies will be arranged and guaranteed before students start with the minor. Students who already know they will follow part B of the Minor will choose their internship in an early stage (during Part A of the Minor) in order to allow for proper preparation and arrangements. The students have to finance the internship (travel, accommodation and living costs) themselves, unless part of the costs is covered by the host organization. The latter only applies to board and lodging costs. The costs involved for an internship are to a large extent country and context specific but between 2,500 and 3,000 Euros is a realistic estimate of the costs involved. Students will be provided with suggestions on where to find opportunities to apply for subsidies. In case extra help is necessary, student should contact the minor coordinators who will provide individual support.

The internship takes place from week 47 (starting 19 November 2018) until week 3-4 (14/21 January 2019). Students are guided by three supervisors. Firstly, every group of students receive supervision from their internship supervisor, who is one of the lecturers in Part A of the minor. The internship supervisor provides the students with content focused feedback, so they can successfully finish their internship assignment. Secondly, the internship coordinator supervises all students in Part B on personal, organisational or administrative issues. Thirdly, a local supervisor supports the students in their host country.

Course objectives

After the internship students are able to:

- Apply and extend the knowledge and skills acquired in the theoretical part of the minor in a specific context and practical assignment;
- Collaborate with other students with a different (disciplinary/study) background;
- Clearly define and shape the contribution of their own field in solving a specific problem of frugal innovation (scientific or other);
- Work in a different cultural environment from their own;
- Show an open mind and attitude which is sensitive to different cultural contexts;
- Communicate and present on frugal innovation to academic and non-academic audiences.

Timetable

Mode of instruction

Individual supervision, global classrooms.

Course Load

280 total hours of study, fully spent abroad.

Assessment method

Assessment

- The 'outcome' of the internship
- Written assignment: an individual internship report in which the student reflects on his or her own contribution to the outcome of the internship and on his/her learning objectives previously formulated in the internship plan.
- Assessment by the host on performance of the student

Weighing

Final grade: 50% 'outcome of the internship', 30% individual internship report + 20 % assessment by the host.

The final grades for the outcome, individual internship report and assessment by the host should be 6,0 or higher. Together they should be a 6,0 or higher to pass the course..

Resit

A re-sit for the internship is not possible.

Exam Review

Attendance

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Blackboard

In this course, Blackboard and Global Classrooms are used to share information, and to make course materials available.

Reading list

Background materials that can help the students to gain a better insight in the context and background of the internship assignments. These materials will be provided by the internship supervisor and/or the host.

Registration

You can register for the whole minor and for each individual course in [uSis](#).

Contact

If you have questions, please contact the minor coordinators (André Leliveld, Emma Hesselink and Maaïke Westra) at minorfrugalinnovation@asc.leidenuniv.nl

Course 'Internship Evaluation & Reflection'

Year:	2018-2019
Catalog number:	
Teachers:	Dr. A. (André). H.M. Leliveld, E. (Emma) S. Hesselink, MSc, various supervisors from Leiden. Delft and Erasmus
Language:	English
Blackboard:	Yes
EC:	1
Level:	200
Period:	Semester 1, Block II

Admission requirements

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Description

The last week of part B of the minor will be dedicated to a Welcome Back session with all students and internship supervisors, where students will present their work and experiences, for which they are graded.

Course objectives

After the course students are able to:

- Evaluate realistically the potential and limitations of their achievement in the field;
- Clearly present the contribution of their own field in solving a specific problem of frugal innovation (scientific or other).

Timetable

Mode of instruction

In-class group based assignments, presentations.

Course Load

28 total hours of study

Assessment method

Assessment

Presentation in class and participation in class

Weighing

Final grade: 50% presentation + 50 % participation

The final grades for the presentation and participation should be 6,0 or higher. Together they should be a 6,0 or higher to pass the course

Resit

A re-sit is not possible.

Exam Review

Attendance

All students who went for an internship abroad have to be present in the course. The teachers and the minor coordinator have to be notified in advance for the absences. The students who are absent more than one day will not pass the module.

Blackboard

In this course, Blackboard is used to present and exchange information.

Reading list

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Registration

You can register for the whole minor and for each individual course in uSis.

Contact

If you have questions, please contact the minor coordinators (André Leliveld, Emma Hesselink and Maaïke Westra) at minorfrugalinnovation@asc.leidenuniv.nl