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# MSc in Logistics / master i logistikk

## Study Facts

**Credits:** 120

**Duration:** 4 semesters

**Study mode:** Full-time

**Campus:** Molde

**Level of study:** Master

**Year:** 2015

**Program of study:** Master of Science in Logistics

**Faculty:** Logistics

**Person in charge:** Arnt Buvik

## Introduction

Logistics entails organizing the flow of products, services and information from raw materials to the end user. For a large number of industrial and business companies, achieving high quality logistics operations will be the key competitive factor for future success. There is therefore a considerable focus on logistics in the business world. Accordingly, the job market for students with a master's degree in logistics is generally good.

The program aims to give a thorough analysis and understanding of problems, challenges and solutions associated with all parts of the value chains: purchasing and supply, production planning, inventory management and distribution planning, including the management of transport services. Understanding the relations between different value chains, (Supply Chain Management) is also a major focus in the program.

The approaches to problem solving in logistics requires a broad understanding of the subject matter in order to arrive at satisfactory solutions on the basis of an analysis of alternatives. Logistics as a scientific discipline thus rests on a broad spectrum of disciplines, such as economics, information/communication technology, business administration, organization and management, as well as quantitative methods based on mathematics, operations research and statistics. The involvement of all these topics in logistics makes it exciting and challenging to study logistics at this level.

Students in the program will choose one of the two main specializations, called *Operation Management (OM)* and *Supply Chain Management (SCM)*. Students choosing the SCM-variant must – before the second semester starts – choose between three different sub- variants: Advanced Supply chain management, Information systems, and Transportation In SCM.

*Operation Management* is meant for students interested in quantitative methods for planning and management of activities involved in procurement, production, inventory and distribution within and across companies. Ideal backgrounds are logistics, business administration, engineering, mathematics and computer science, but most important is an interest and ability in the use of quantitative methods and models.

*Supply Chain Management* is suited for students with an interest in organization, business and to some extent social science. Although mathematics and statistics is used, the focus is more on the qualitative aspects involved in the

management of the value chain. Suitable backgrounds include supply chain management, economics, business administration, among others.

The program is taught entirely in English and currently includes students from more than 10 different countries, many outside Europe. This means that those participating in the program will have the benefit of belonging to a truly international group of students and to enhance their language skills, making them ready for logistics careers in an ever more globalized economy

## **Learning outcome**

After completing the program, the successful candidate is expected to:

### General Competence

- be able to communicate about professional issues relevant to SCM and logistics, on an expert- as well as a common level
- be able to apply acquired knowledge and skills within new areas of research and applications
- be able to read scientific papers and other academic work with a critical view

### Knowledge

- have advanced knowledge about supply chains and logistics in general
- have specialized knowledge about selected topics when dealing with different types of supply chains
- have extensive knowledge of scientific theories and methods relevant to managing supply chains and operations within such chains
- have advanced knowledge of the relations between supply chains and relevant theories within economics and business administration
- have advanced knowledge about logistics, operations research and operations management in general

### Skills

- be able to use advanced theory and methods to identify inefficiencies in supply chains
- be able to propose improving organizational/structural changes and suggest ways of implementing such changes in a supply chain.
- be capable of performing a limited supervised research project within a supply chain in line with ruling academic standards of the field
- be able to identify operational challenges/problems in supply chains and logistics systems and to assert the relevance of models and methods to resolve these
- be able to select relevant models and methods for approaching a given logistical problem.
- be able to chose and use relevant software and technology in implementing computer-assisted solution methods

## **Target audience**

The program targets a wide variety of highly motivated students with an interest for studying logistics in an international environment.

## **Required prerequisite knowledge**

A bachelor's degree equivalent to 180 ECTS credits is required. At least 80 ECTS of the bachelor's degree should be related to a specialization relevant to logistics or applicants should have a strong background in one or more of the main methodologies used in the study program like mathematics, statistics, organization or marketing.

Applicants from some countries will be required to document a recognized test in English language. See "Information for international applicants" at the English home page - [www.himolde.no/english](http://www.himolde.no/english)

## **Work- and learn methods**

The program courses use a wide range of teaching and study methods. Standard courses run over one semester with classes once or twice per week. Students have homework in terms of exercises, computer lab work, case studies and essays, both individually and in groups. The one- or two-weeks seminars in the third semester are intensive courses with a mix of lectures, homework, discussions and student presentations. Students finalize the degree by carrying out a supervised research project and write their thesis on basis of this. Students enrolled in the program are expected to do at least 40 hours of study work per week. The program is not suited for distance learning.

## **Examination and assessment methods**

Student assessment is made on basis of monitored exams, essays, written case study reports and oral presentations.

## **Required progression**

An achievement of at least 75% of nominal study progression during an academic year is required in order to maintain the place in the study programme.

## **Internationalisation**

The program offers students the possibility to go on exchange in the second semester. They can also write the master thesis at a university abroad. This gives international students the opportunity to work on master projects related to their home country. Students interested in doing so should contact the program coordinator early in their studies.

## **Further studies**

The Master`s degree will qualify the candidate for admission to the PhD program in logistics at Molde University College, as well as other PhD programs in Norway or abroad. Admission to the PhD programs via the MSc program is dependent on excellent academic performance.

## **Content structure**

In the first semester there will only be mandatory courses. There will be one common course for the two main varieties. In the second semester the SCM-students have to choose between 3 different sub-variants. There will be a mix of mandatory courses and elective courses. The latter can be chosen from a list of courses. The third and fourth semesters are structurally the same for all specializations. The series of one- or two weeks seminars in the third semester requires that each student follows at least ten seminars (10 weeks) selected from a set of more than 20 available topics. In addition all students have to write a proposal which is the starting point for the master thesis which is written in the fourth semester.

Some additional information about the MSc program can be found on [the MSc logistics program homepage](#).

## MSc in Logistics - Supply Chain Management

COURSE	2015 AUTUMN	2016 SPRING	2016 AUTUMN	2017 SPRING
Supply Chain Management - Mandatory courses				
LOG708 Applied Statistics	7.5			
LOG711 Supply Chain Management 1	7.5			
SCM702 Purchasing and Supply Theory	7.5			
SØK710 Industrial Organization	7.5			
Three subvariants (see table below)		30		
LOG904 Seminars in Logistics			30	
LOG950 Master's Degree Thesis				30
Advanced Supply Chain Management - Subvariant nr.1				
LOG715 Business cases in SCM		7.5		
SCM703 Applied Supply Chain Management		7.5		
SCM705 Cost Management in SC		7.5		
Transportation in Supply Chain Management - Subvariant nr.2				
LOG715 Business cases in SCM		7.5		
TRA816 Maritime Transportation		7.5		
TRA820 Air Transport Economics		7.5		
Information systems in supply Chain Management - Subvariant nr.3				
IBE700 Enterprise Resource Planning (ERP) with SAP		7.5		
IDA710 Business processes and information modelling		7.5		
IDA715 Discrete Event Simulation		7.5		
Elective courses second semester (spring):				
JUR710 Contract Law		7.5		
LOG765 Project Planning and Control		7.5		
TRA700 Transportation Infrastructure Assessment		7.5		
TRA705 Urban Freight Logistics		7.5		

Courses from any of the other varieties in the master programs in logistics can also be chosen as an elective

<b>COURSE</b>	<b>2015 AUTUMN</b>	<b>2016 SPRING</b>	<b>2016 AUTUMN</b>	<b>2017 SPRING</b>
course				
Sum (120 total)	30	30	30	30

## MSc in Logistics - Operation Management

COURSE	2015 AUTUMN	2016 SPRING	2016 AUTUMN	2017 SPRING
Operation Management - Mandatory courses				
LOG711 Supply Chain Management 1	7.5			
LOG713 Models for Production Management	7.5			
LOG716 Mathematical Modelling in Logistics	7.5			
LOG722 Inventory Management	7.5			
LOG733 Exact Optimization Methods in Logistics		7.5		
LOG820 Vehicle Routing with Heuristics		7.5		
Elective courses (see table below)		15		
LOG904 Seminars in Logistics			30	
LOG950 Master's Degree Thesis				30
Elective courses second semester (spring)				
IDA710 Business processes and information modelling		7.5		
IDA715 Discrete Event Simulation		7.5		
LOG765 Project Planning and Control		7.5		
Courses from any of the other varieties in the master programs in logistics can also be chosen as an elective course				
Sum (120 total)	30	30	30	30

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# MSc in Petroleum Logistics

## Study Facts

**Credits:** 120

**Duration:** 4 semesters

**Study mode:** Full-time

**Campus:** Molde, Moscow

**Level of study:** Master

**Year:** 2015

**Program of study:** Master of Science in Sustainable Energy Logistics

**Faculty:** Logistics

**Person in charge:** Irina Gribkovskaia

## Introduction

**This is a new study programme from August 2015.**

Logistics entails the organization of the flow of products, services and information from raw materials to the end user. For a large number of industrial and business companies, achieving high quality logistics operations will be the key competitive factor for future success. There is therefore a considerable focus on logistics in the business world. Oil and gas companies are no exception from this. The programme aims to give a thorough analysis and understanding of problems, challenges and solutions associated with all parts of the supply chains dealing with the oil and gas industry; on-shore as well as off-shore: exploration, purchasing, production planning, inventory management and downstream distribution planning. In addition the programme will give an understanding of the energy situation in the world, comparing existing renewable energy sources as well as non-renewable sources both in terms of costs, qualities and availability.

Logistics as a scientific area rests on a broad spectrum of disciplines such as economics, information/communication technology, business administration, organization and management, as well as quantitative methods based on mathematics, operations research and statistics. All these topics in logistics makes it a challenging area to study.

The programme is taught entirely in English, and is open to students from all countries. This means that students at the programme will have the benefit of belonging to a truly international group of students, and to enhance their language skills, making them ready for logistical careers in a more globalized economy.

### **Possibility of double degree (Not open for international applicants for admission in 2015)**

HiMolde can in addition offer the MSc in Petroleum Logistics as a double degree in collaboration with the main oil and gas university in Russia: Gubkin Russian State University of Oil and Gas, Moscow . Students following the double degree option of the MSc programme, must undertake study periods at both institutions. Lectures in the first and third semester will then take place in Molde, and the second semester in Moscow.

The double degree option of the MSc programme in Petroleum Logistics will not be offered to international students admitted in 2015.

## Learning outcome

After completing the programme, the successful candidate is expected to:

### Knowledge

- have good and general knowledge about logistics and supply chain management (SCM) in general.
- have specialized knowledge about SCM in the petroleum industry.
- have specialized knowledge about different types of energy sources and the relationship between these.
- have extensive knowledge of scientific theories and methods relevant to SCM and operational logistics.
- have advanced knowledge of scientific theories and methods relevant to SCM of the petroleum industry, including a broad knowledge about models and methods in general, and their use in petroleum logistics in particular.

### Skills

- be able to use advanced theory and methods to identify inefficiencies in supply chains.
- be able to propose improvements of organizational/structural changes, and suggest ways of implementing such changes in a supply chain.
- be able to understand the specific challenges connected to the different supply chains in the petroleum industry.
- be capable of performing a limited supervised research project within operational logistics, in line with ruling academic standards in the field.

### General Competence

- be able to present and communicate professional issues relevant to logistics.
- be able to apply acquired knowledge and skills within new areas of research and education.
- be able to read scientific papers and other scientific work with a critical view.

## Target audience

The programme targets a wide variety of highly motivated students with an interest to study petroleum logistics in an international environment.

## Required prerequisite knowledge

A recognized bachelor's degree (180 ECTS credits) within Logistics, Economics, Business Administration, Engineering, Mathematics, Informatics or other relevant academic areas is required. Applicants need to fulfill the English language requirements, see "Information for International applicants" at the English home page - [www.himolde.no/english](http://www.himolde.no/english).

## Work- and learn methods

A wide range of lecturing and study methods are used within the courses. Courses usually run over one semester with lectures once or twice per week. In some cases courses consist of intensive lecturing in one or two weeks during a semester, and more regular lectures once a week in other parts of the semester. Students have homework in terms of exercises, computer lab work, case studies and assignments, both individually and in groups. The seminars in the third semester are intensive courses lasting for one week consisting of lectures, homework, discussions and student presentations. Students enrolled in the programme are expected to have at least a work load of 40 hours per week. The programme is not offered for distance learning.

## Further studies

The MSc programme in Petroleum Logistics will qualify to apply for admission to the PhD program in Logistics at Molde University College, as well as other PhD programs.



# **Content structure**

## **Study in Molde**

The study programme includes only compulsory courses. All lectures and exams will take place in Molde. The third semester consists of seminars, all lasting for one week. During this semester, the students should also find a topic for their master's thesis, and write a proposal for this. Here the students should indicate the topic, research methods and methodologies that can be relevant, some preliminary overview of previous research, and literature within the chosen topic. The proposal will be presented orally. In the fourth semester the students are working on their master's thesis. Presentation and examination/ defense of the thesis will take place in June.

## **Study in Molde and Moscow (Double degree)**

The study programme consists of only compulsory courses. In the first semester, all lectures and exams will take place in Molde. In the second semester, the lectures and exams will take place in Gubkin Russian State University of Oil and Gas. The third semester will take place at Molde University College - Specialized University in Logistics. During this semester the students should also find a topic for their master's thesis, and write a proposal for this. The proposal will be presented orally. In the fourth semester students are writing their master's thesis. Presentation and examination/ defense of the master's thesis will take place in June.

## MSc in Petroleum Logistics

COURSE	2015 AUTUMN	2016 SPRING	2016 AUTUMN	2017 SPRING
LOG716 Mathematical Modelling in Logistics	7.5			
LOG730 Basics of Petroleum Logistics	7.5			
LOG731 Networks Logistics	7.5			
SØK710 Industrial Organization	7.5			
IDA715 Discrete Event Simulation		7.5		
LOG740 Advanced Petroleum Logistics		7.5		
LOG820 Vehicle Routing with Heuristics		7.5		
TRA816 Maritime Transportation		7.5		
LOG904-PET Seminars in Petroleum Logistics			30	
LOG953 Master's Degree Thesis				30
Study in Molde and Moscow				
LOG716 Mathematical Modelling in Logistics	7.5			
LOG730 Basics of Petroleum Logistics	7.5			
LOG731 Networks Logistics	7.5			
SØK710 Industrial Organization	7.5			
GSU1 Global Energy		3		
GSU2 Transportation and Forwarding of Hydrocarbons in a Supply Chain		5		
GSU3 International Oil and Gas Logistics		5		
GSU4 Energy Resources Trading on World Market		2		
GSU5 Basics of Oil and Gas Technology		2		
GSU6 Basic Principles of Shelf Field Development		3		
GSU7 Research Practice		10		
LOG904-PET Seminars in Petroleum Logistics			30	
LOG953 Master's Degree Thesis				30
Sum (120 total)	30	30	30	30

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# MSc in Sport Management

## Study Facts

**Credits:** 120

**Duration:** 4 semesters

**Study mode:** Full-time

**Campus:** Molde

**Level of study:** Master

**Year:** 2015

**Program of study:** Master of Science in Sport Management

**Faculty:** Sports

**Person in charge:** Geir Oterhals

## Introduction

The MSc in Sport Management is designed to prepare students to work in management positions in the sport and sport-related industry. The programme intends to convey a solid understanding and knowledge about sport management as it is practised in the European context, and introduce the students to legal, ethical, economical, organisational, historical, political, and psychological topics necessary to meet the demands of this growing industry. This means 1) that the main aim of the programme is the open format of team sports more than the closed leagues, which are frequent in some other parts of the world, and 2) that the aim of study is neither sport or business administration, but in fact a combination, which makes the understanding of Sport Management complex. The programme will expose students both to practitioners and scholars. Moreover, they will be challenged on up-to-date problems and conventional understandings or sport myths as they are conveyed by the actors of sport. In the third term students concentrate either in Football Management or in Marketing, Media and Sponsorship based on their chosen seminars and internship.

As prospective councillors or decision-makers, the students should be able to face complex situations in organisations in an analytic and reflective manner. The study programme enables students to find good solutions and to create cooperative environments. By equipping the students with diverse perspectives and knowledge through lectures, assignments, discussions, teamwork and internship, the students should develop an understanding of the complexity, heterogeneity and uncertainty in sport, and the need to listen and be responsive to others. This should enable them to constructively take part in change projects. By working in a sport context and completing their master's thesis, students should develop their capacity as problem-solvers by defining problems and research questions, and by examining, analysing, concluding and defending their conclusions.

## Learning outcome

After completing the program, the successful candidate is expected to:

### Knowledge

- have advanced knowledge in economical and organizational theories concerning sport management
- have specialized knowledge about selected topics within the field of sport management
- have extensive knowledge in scientific methods and philosophy of science relevant to the field

## Skills

- be able to contribute in finding solutions to organizational problems in sport organizations.
- be able to do independent analytical work and to write scientific texts in an theoretically informed and methodologically sound manner
- be able to acquire new scientific literature in an independent and critical way
- be capable to present work orally and in writing in an academic as well as popular form

## General qualifications

- be able to work independently
- have skills and experience in cross cultural and inter-professional team work
- be able to communicate about professional issues relevant to Sport management, on an expert- as well as a common level

## Target audience

Students who work or plan to work in sport clubs, sport associations or other types of organisations (agencies, media, event organisers etc.)

## Required prerequisite knowledge

Applicants should preferably hold a recognised first degree (BBA, BA, BSc), equivalent to a minimum of 180 ECTS credits, in Sport Management/ Sciences, Business Administration, Social Sciences (Economy, Sociology, Political Science or History) or other relevant academic disciplines to apply for the MSc programme in Sport Management.

Admission to the international MSc programmes at Molde University College, Specialized University in Logistics is highly competitive, and applicants should preferably have completed their bachelor's degree with an average grade of Excellent or Very Good, or at least a minimum average grade of Good/ grade C or equivalent (Like First Class or Second Class Upper Division or equivalent grades). For English language requirements for admission, see more detailed information on our home page: [www.himolde.no](http://www.himolde.no).

## Work- and learn methods

The program courses use a wide range of teaching and study methods. Some courses run over one semester with classes once or twice per week, and in some cases courses are organized as seminars with one-week intensive teaching. Students are expected to work individually between lectures, and especially during the seminars the work load could be intense. During the third term students does an internship.

In many of the courses case studies and writing essays, both individually and in groups, is part of the teaching methods. Students finalize the degree by carrying out a supervised research project and write their thesis on basis of this.

Students enrolled in the program are expected to do at least 40 hours of study work per week. Of these around 10-15 hours are contact hours (teaching, seminars and supervision). During the second year a substantial part of the work is connected to writing the master thesis.

The program is not suited for distance learning

## Examination and assessment methods

Student assessment is made on basis of monitored exams, essays, written case study reports, internship and oral presentations.

## Required progression

An achievement of at least 75 % of nominal study progression during an academic year is required in order to maintain the place in the study program.

## **Internationalisation**

Students might take their third term abroad at one of our recommended European partner universities.

## **Further studies**

Candidates with an MSc in Sport Management should qualify for a PhD in Sport Management. In most cases this is dependent on excellent academic performances.

## MSc in Sport Management

COURSE	2015 AUTUMN	2016 SPRING	2016 AUTUMN	2017 SPRING
IDR710 Philosophy of Science and Research Methods	7.5			
IDR720 Introduction to Sport and Event Economics	7.5			
ADM900 Forms of organization and management	15			
IDR705 Team Sport History		7.5		
EVM720 Event Organization		7.5		
IDR725 Team Sport Economics		7.5		
IDR805 Sport and Event Marketing		7.5		
IDR910 Internship			15	
Elective courses (see table below)			15	
IDR803 Seminars in Football Management			15	
IDR804 Seminars in Marketing, media and sponsorship			15	
IDR950 Master`s Degree Thesis				30
Sum (120 total)	30	30	30	30

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# PhD in Logistics

## Study Facts

**Credits:** 180

**Duration:** 6 semesters

**Study mode:** Full-time

**Campus:** Molde

**Level of study:** PhD

**Year:** 2015

**Program of study:** Philosophiae doctor in Logistics (ph.d)

**Faculty:** Logistics

**Person in charge:** Svein Bråthen

## Introduction

The doctoral programme at Molde University College is a three-year full-time programme leading to a doctoral degree (phd) in logistics. The conferral of the doctoral degree in logistics signifies that the candidate has attained expert competence in a major field of study. Candidates usually plan on spending four years, including a 25% workload outside the programme or with teaching duties at the college.

## Learning outcome

A candidate who has completed his or her PhD programme is to have the following learning outcomes defined in terms of knowledge, skills and general competence:

### Knowledge

- is at the forefront of logistics, and he/she masters scientific theories and methods of logistics research;
- can evaluate and analyse various logistical theories, methods and processes in research and in applied research and development (R&D) projects in an international perspective;
- can contribute to the development of new knowledge, new theories, and methods in logistics

### Skills

- can formulate research questions for academic research and applied research and development at a recognized international level in logistics;
- can contribute to new knowledge in logistics through scientific research that can be published in peer reviewed national and international scientific journals;
- can handle complexity, create an overview and synthesize established scientific knowledge and practise
- can critically evaluate and constructively criticize scientific research in logistics

### General competencies

- can identify relevant ethical issues and conduct research with academic integrity;

- can disseminate research and development through highly ranked national and international channels and participate in debates
- can identify their own research in logistics within a wider research area and social context;
- can evaluate the need for renewal, and can initiate and be engaged in innovation

## Admission and rating

To be eligible for admittance, you must have an excellent academic record with at least a five-year master-level degree in a relevant field, or equivalent educational qualifications. For applicants with a Norwegian background, an average mark of 2.5 or better (B with the new grades) from the master-level study is needed. Read the [detailed rules](#) governing the program.

There is no tuition fee at Molde University College. However, you need to be able to support yourself financially. For Norwegians this means a scholarship from the College (which is advertised when available), a scholarship from the Research Council, or direct financing from a company. The Research Council of Norway has special scholarships for citizens of some countries. In addition, non-Norwegians may of course have support from their own countries. To be given a student visa by the immigration authorities, you need available in a bank account NOK 80000 in the beginning of each academic year. This requirement is automatically satisfied if you are financed by the college or the Research Council. The college will normally add a fourth year for students financed by the Research Council.

With financing in order, the first thing you should do is to determine the research topic you would like to pursue in your work on your thesis. Then you must locate a member of the academic staff of Molde University College who is interested in your topic, qualified as a supervisor and willing to help you. You can do that in several ways. One possibility is to contact the leader of the Doctoral Committee, who will try to help you. If you already know whom you would like as a supervisor, you should get in touch with that person. When you have found a potential supervisor, you and the supervisor should write an application, with emphasis on the research topic and methodology, plus a package of courses and a plan for a stay abroad. This is the major part of your application for admittance. The Doctoral Committee at Molde University College will make the final decision about accepting you as a doctoral student. (If you are employed at the college as "stipendiat", much of this would have had to be done in that process.)

Read more about the [application process](#).

## Content structure

The general structure is as follows: The study itself takes three years and includes 45 ECTS with courses and similar activities. The rest of the time is allocated to the thesis. Scholarship holders (stipendiater) will in addition normally have one year of working duties for the college. Doctoral students may take one or two semesters abroad, which may be used for both coursework and work with the thesis.

Courses are taken from three sources

1. The master-program in logistics at Molde University College
2. Doctoral courses at Molde University College
3. Courses at master or doctoral level at other (foreign or domestic) universities

You must take some courses from groups 2 and 3, but may drop group 1.

You will normally have one supervisor in Molde plus one or more co-supervisors from elsewhere. These can typically be your foreign host, or a representative for the industry you are financed by or are working for. Other academics may also have this role, depending on your needs. Suggesting co-supervisors is the duty of your main supervisor, and the Doctoral Committee approves them.

About one year before you plan to finish, an evaluation committee will be appointed. The committee has three members, at most one from the college and at least one international. The committee has two major duties: To



approve your thesis for its final defense, and to evaluate your defense. As the committee is appointed one year before you plan to finish, it will have the possibility to give you advice so that approval is achieved.