# IHC - Master of Science (MSc) in Business Administration and Innovation in Health Care

**Preamble**

Pursuant to section 45 of Ministerial Order no. 2285 of 1 December 2021 on Full-time Programmes at Universities (the University Programme Order); section 28(3) and section 30(1) of Ministerial Order no. 35 of 13 January 2022 on Admission and Enrolment on Full-time Programmes at Universities (the University Admission Order); and Ministerial Order no. 1125 of 4 July 2022 on the Grading Scale of Educations within the Sphere of the Ministry of Higher Education and Science (the Grading Scale Order) the Dean of Education, acting on a proposal prepared by the study board, has approved the following programme regulations.

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# Part 1: Programme specific regulations

**Degree title and duration**

**1.** Students who successfully complete the programme earn the degree *Master of Science (MSc) in Business Administration and Innovation In Health Care*, in Danish *cand.merc. i sundhedsinnovation* (candidatus/candidata mercaturae), abbreviated *cand.merc.(si.)*.

(2) This programme is governed by The Study Board for the Master of Science in Business Administration and Innovation in Heath Care.

(3)The master's (candidatus) programme is a two-year full-time programme, corresponding to 120 ECTS credits. The deadline for completing the programme is the rated time of study + one year after the student commenced the programme. Leave periods, if any, are not included in this time frame. Level of qualification: Master's degree at NQF/EQF Level 7 referring to Second Cycle in the Bologna QF.

(4) The programme duration refers to the number of student full-time equivalents according to which the programme is structured. A full-time equivalent corresponds to one year of work by a full-time student and corresponds to an annual workload of 1650 working hours corresponding to 60 ECTS credits (European Credit Transfer System). The workload includes scheduled classes, preparation for classes, completion of written assignments, other teaching activities, independent study as well as preparation for, and participation in examinations.

**Admission requirements and qualifying degrees**

**1A.** No bachelor degree gives the right to admission to the MSc in Business Administration and Innovation in Health Care programme.

(2) The following bachelor degrees give access to admission to this programme, see however subsections (4) and (6):

From CBS:

- HA almen
- BSc in Business Administration & Sociology
- HA(it.).

From other educational institutions:

- Bachelor i folkesundhedsvidenskab (KU)
- Bachelor i IT og sundhed (KU).

(3) Admission to the MSc in Business Administration and Innovation in Health Care programme requires that the applicant has completed a qualifying bachelor degree, among these a professional bachelor degree, or other Danish or foreign degree at the same level. During the education the

applicant must have covered the following academic disciplines to a sufficient degree on an overall, individual assessment:

Min. 30 ECTS-points within one or more of the following areas:

- Organisation
- Quantitative methods
- Economics
- IT
- Epidemiology
- Human biology
- Pathology
- Physiology/anatomy
- Biochemistry/organic chemistry.

(4) The requirements for language skills are available on CBS' homepage: cbs.dk/graduateadmission.

(5) Standard assessments of a number of degrees from CBS or other universities are available on cbs.dk/graduateadmission.

(6) In the event that there are more applicants who fulfil the admission requirements than there are places offered at this programme, the selection shall be made according to criteria laid down in advance and published on cbs.dk/graduateadmission.

(7) Available at cbs.dk/graduateadmission are the application and admission procedures, including deadlines, as well as information about the date when the offer or the rejection of a place of study is made and about the requirement to accept a place of study.

**Purpose**

**2.** The Master of Science (MSc) in Business Administration and Innovation in Health Care, cand.merc.(si.), is a theory-based graduate-level programme, emphasizing the training of actionable innovation skills.

(2) The objective of MSc (IHC) is to offer a distinctive, new set of skills to employers in the Danish and international health care systems. These skills will be targeted specifically at the public and private organizations of the system which over the coming decades will take health care through a major transformation. The buildings blocks of that transformation will come from a multitude of innovations at all levels of the health care system, involving both its public and commercial parts and new interdependencies between the two. MSc (IHC) graduates will be trained to select, initiate, manage and implement innovations in this complex setting.

(3) Innovations in health care have economic and organizational dimensions. They must fit into complex institutional and regulatory settings. They have a strong design component and, and they

often involve IT. The objective of the programme is to provide students with relevant analytical and actionable skills allowing them to innovate while taking these different perspectives into account.

(4) Health care innovations typically involve a variety of disciplines and organisations. It is essential that students are prepared to operate in highly heterogeneous setting. The programme must train students in complex, multidisciplinary problem solving.

(5) Through participation in the programme, students should also acquire the ability to collaborate with people from different professions in working with and solving problems that involve a variety of fields.

**Competency profile**

**3**.The Study Board has developed a qualification profile, which describes the expected learning outcomes of this degree program, see Appendix.

**Content and structure**

**4.** The graduate programme in Innovation in Health Care offers courses and training in within the economics and management of Innovation in Health Care.

(2) The programme is interdisciplinary, taught in English, and integrates the learning of a range of analytical approaches and tools with direct application to business practices.

(3) Courses in the first semester present the main disciplinary building blocks: Two 7.5 ECTS courses introduce students to the quantitative methodological skills and to the models of innovation challenges and process, followed by two 7.5 ECTS courses in a comparative approach to health care systems, and in the organization of health care innovation, respectively. Throughout the second semester, students work on an innovation project, organized in a 15 ECTS project course. This course also includes workshops on specific innovation tools referring e.g. to market analysis or IPR. Alongside the project course, students follow courses introducing them to digital health and to innovations in clinical processes.

(4) In the third semester the student chooses between a number of tracks (of 30 ECTS), see subsection (7).

(5) The student chooses the entire track as a package.

*Structure*

(6) The below table lists the structure of the programme and the ECTS credits of the individual courses. The course descriptions are available in the online course catalogue.

**1st year courses**

| Course | ECTS |
|---|---|
| Health Care Innovation and Management | 7.5 |
| Managerial Statistics for Innovation | 7.5 |
| The Organization of Health Care Innovation | 7.5 |
| Health Systems and Innovation | 7.5 |
| Foundations of Health Care IT | 7.5 |
| Innovation in Clinical Processes and Health Care Delivery | 7.5 |
| The Health Care Innovation Project | 15 |

### 2nd year courses

| Course | ECTS |
|---|---|
| Elective Track | 30 |
| Master's Thesis | 30 |

(7) In third semester the student can chose between the following elective tracks:

- Track 1: Digital Innovation in Health Care
- Track 2: Health Technology Assessment
- Track 3: Bio and Health Care Entrepreneurship.

Tracks 1 and 2 include one course at University of Copenhagen (UCPH).

### Elective track on Digital Innovation in Health Care (Track 1) :

| Course | ECTS |
|---|---|
| Frontiers of Digital Healthcare | 7.5 |
| Digital Services and Innovation in Health Care | 15 |
| Register Based Epidemiology (at UCPH) https://kurser.ku.dk/course/sitk20001u/2022-2023 | 7.5 |

### Elective track on Health Technology Assessment (Track 2):

| Course | ECTS |
|---|---|
| Empirical Methods in Health Care Innovation | 7.5 |
| Health Innovation Assessment and Advanced Cost Benefit | 15 |
| Register Based Epidemiology (at UCPH)https://kurser.ku.dk/course/sitk20001u/2022-2023 | 7.5 |

### Elective track on Bio and Health Care Entrepreneurship (Track 3)

| Course | ECTS |
|---|---|
| Bio-Markets | 7.5 |
| Finance and Accounting in Bio-Business | 7.5 |
| Bioentrepreneurship | 7.5 |
| Innovation Challenges in BioBusiness | 7.5 |

**4A.** In the academic year 2022/2023, students have the possibility to take Track 3 as a full-semester track at Nova School of Business and Economics (Nova SBE) in Lisbon, Portugal.

*Track 3: Nova School of Business and Economics, Portugal Platform*

Semester module on Bio and Health Care Entrepreneurship - Nova School of Business and Economics (Nova SBE), Lisbon, Portugal.

### 1st and 2nd quarter, Nova SBE

| Course | ECTS |
|---|---|
| Entrepreneurial Journey | 3.5 |
| Entrepreneurship with Impact | 7 |
| Opportunity Identification | 3.5 |
| Metrics that Matter | 3.5 |
| Product Design and Development | 3.5 |
| Science-based Entrepreneurship and Innovation | 3.5 |
| Entrepreneurial Strategy | 3.5 |

| Course | ECTS |
|---|---|
| Professional Development Modules | 2 |

(4) There will be a selection process for the exchange programmes based on the following criteria:

- Bachelor diploma
- Grade transcript from IHC (download from self-service)
- Motivational Essay: 1 page explaining your personal and academic motivation for taking part in the Nova exchange semester
- Resume/CV in English

**Master's thesis**

**4B.** The master's (candidatus) thesis must document skills in applying scientific theories and methodologies to a clearly defined academic topic. The thesis must be placed at the second year of study of the master's candidatus programme.

(2) The Programme Director, or the person the Programme Director has empowered to do so, approves the research question of the master's thesis and at the same time determines a submission deadline for the thesis, see subsection (3), and a plan for the thesis supervision. The deadline for submitting the thesis contract is 15 November in the student's 3rd semester, by submission of the thesis contract; see however section 14(3). See also section 19(7).

(3) The deadline for submitting the thesis is 15 May in the student's 4th semester, and it is not possible to withdraw from the exam once the thesis contract has been approved. If the student does not submit within the deadline, the student has used one examination attempt, unless a dispensation has been granted under section 14(7).

(4) If the student does not submit the thesis within the time frame specified in subsection (3), the Programme Director, or the person the Programme Director has empowered to do so, approves a modified problem formulation within the same field and lays down a new three-month deadline for submission at the same time. If the student does not submit the thesis by the new deadline, the student may be granted a third examination attempt, see the Examination Order, in accordance with the same rules which applied to the second examination attempt.

(5) The rules in subsection (4) also apply for a master's thesis for which the student has not obtained at least the grade 02, see the Grading Scale Order.

(6) For more information regarding the content of the master's thesis, please see the study homepage at my.cbs.dk.

(7) The thesis project must address a practical challenge in healthcare innovation. Whenever possible, students must interact and collaborate with a "problem owner" in industry or in healthcare organizations to secure practical relevance of the topic of the thesis and of its contributions to the solution to that problem.

## Examinations

**5.** The programme consists of the examinations listed below. The learning objectives and the regulations of the individual examinations are prescribed in the online course catalogue. Direct links to the individual examinations are inserted in the table below.

### 1st year

| Exam name | Exam form | Gradingscale | Internal/external exam | ECTS |
|---|---|---|---|---|
| Health Care Innovation and Management | Written sit-in exam on CBS' computers | 7-point grading scale | Internal exam | 7.5 |
| Managerial Statistics for Innovation | Home assignment - written product | 7-point grading scale | Internal exam | 7.5 |
| The Organization of Health Care Innovation | Home assignment - written product | 7-point grading scale | Internal exam | 7.5 |
| Health Systems and Innovation | Oral exam based on written product | 7-point grading scale | Internal exam | 7.5 |
| Foundations of Health Care IT | Oral exam based on written product | 7-point grading scale | External exam | 7.5 |
| Innovation in Clinical Processes and Health Care Delivery | Written sit-in exam on CBS' computers | 7-point grading scale | External exam | 7.5 |
| The Health Care Innovation Project | Oral exam based on written product | 7-point grading scale | Internal exam | 15 |

### 2nd year

| Exam name | Exam form | Gradingscale | Internal/external exam | ECTS |
|---|---|---|---|---|
| Electives | See the individual course descriptions | See the individual course descriptions | See the individual course descriptions | 30 |
| Master's Thesis | Oral exam based on written product | 7-point grading scale | External exam | 30 |

The exams amount to 120 ECTS credits in total.

*(2) Elective tracks*

### Assessment at Track 1: Digital Innovation in Health Care (30 ECTS)

| Exam name | Exam form | Gradingscale | Internal/external exam | ECTS |
|---|---|---|---|---|
| Frontiers of Digital Healthcare | Oral exam based on written product | 7-point grading scale | Internal exam | 7.5 |
| Digital Services in Innovation in Health Care | Oral exam based on written product | 7-point grading scale | Internal exam | 15 |
| Register Based Epidemiology (UCPH) | See links below | See links below | See links below | 7.5 |

Links to the exams in Register Based Epidemiology at UCPH can be found here: https://kurser.ku.dk/course/sitk20001u/2022-2023 and here: https://kurser.ku.dk/course/sitk20002e/2022-2023 (exam description).

### Assessment at Track 2: Health Technology Assessment (30 ECTS)

| Exam name | Exam form | Gradingscale | Internal/external exam | ECTS |
|---|---|---|---|---|
| Empirical Methods in Health Care Innovation | Oral exam based on written product | 7-point grading scale | Internal exam | 7.5 |
| Health Innovation Assessment and Advanced Cost Benefit | Oral exam based on written product | 7-point grading scale | Internal exam | 15 |
| Register Based Epidemiology (UCPH) | See links below | See links below | See links below | 7.5 |

Links to the exams in Register Based Epidemiology at UCPH can be found here: https://kurser.ku.dk/course/sitk20001u/2022-2023 and here: https://kurser.ku.dk/course/sitk20002e/2022-2023 (exam description).

**Assessment of Track 3: Bio and Health Care Entrepreneurship (30 ECTS)**

| Exam name | Exam form | Gradingscale | Internal/external exam | ECTS |
|---|---|---|---|---|
| Bio Markets | Oral exam based on written product | 7-point grading scale | External exam | 7.5 |
| Finance and Accounting in Bio-Business | Oral exam | 7-point grading scale | External exam | 7.5 |
| Bioentrepreneurship | Oral exam | 7-point grading scale | Internal exam | 7.5 |
| Innovation Challenges in BioBusiness | Written sit-in exam on CBS' computers | 7-point grading scale | Internal exam | 7.5 |

The following courses have compulsory assignments or other compulsory activities, see section 13. Further specifications and regulations are listed in the relevant course description in the online course catalogue, see the below link(s).

| Course | Number of mandatory activities |
|---|---|
| Bioentrepreneurship | 1 |

***The exams under the Portugal Platform***

(3) Details regarding the exams at Nova SBE are stipulated in the appendix in part 4 of these programme regulations.

**Prerequisites for registering for the exam – compulsory activities**

**5A.** The following courses have compulsory assignments or other compulsory activities, see section 13. Further specifications and regulations are listed in the relevant course description in the online course catalogue, see the below link(s).

| Course | Number of mandatory activities |
|---|---|
| Health Care Innovation and Management | 1 |
| The Health Care Innovation Project | 1 |

**Body of external examiners**

**6.** This degree programme is covered by the body of external examiners for the business administration programmes. It is possible to supplement the body of external examiners, so that the joint body of external examiners for this programme covers all the courses of this degree programme.

**Pass requirements**

**7.** The general pass requirements are stipulated in section 26.

**Precondition for participating in the Health Care Innovation Project exam**

**8.** If the number of students outnumbers the number of places for external collaborations, students will be given the possibility to write a literature based project.

(2) Learning obtained in first semester courses bears directly on the skills the student can offer as part of a second semester innovation project carried out in collocation with an external partner. If a student has not passed the four first semester courses before the start of the second semester innovation project the study programme reserves the right to cancel the collaboration. The student will instead write a literature based project, see however subsection (3).

(3) Students who have not passed all four first semester courses but has participated in both the ordinary and the re-exam within the same exam period will be given the opportunity to write a term paper instead in order to fulfill the precondition. Further information about the term paper can be found on MyCBS.

**9-10.** (Not in use.)

## Part 2: General regulations for master's (candidatus) programmes

**11.** The teaching is organised in a collaboration between the Programme Director, the course coordinators and the teachers. The Study Board approves the organisation of the teaching.

**Examination language**

**12.** Examinations are conducted in English; see however subsection (2).

(2) If a course has been taught in a language other than English, the examination is conducted in that language.

(3) The Study Board may decide to deviate from the rules stipulated in subsections (1)-(2), except when documenting the student's skills in a specific other language is part of the objective of the examination.

(4) The provisions in subsections (1)-(2) apply to oral and written sit-in examinations and to all types of written take-home assignments (seminar papers, projects etc.) subject to assessment.

**Prerequisites for participating in the exam: compulsory activities**

**13.** Besides the examinations listed in section 5, which are included in the final grade point average, on some courses there are one or more compulsory activities. That means that as part of the teaching, one or more written assignments must be submitted and/or one or more oral presentations or other compulsory activities must be carried out. In order for students to participate in the final examination of the course in question, it is a condition that, within a set deadline, the required number of compulsory activities have been submitted/carried out and have been approved by the teacher. What is evaluated is the student's effort; i.e. whether the student has made a try at solving/answering the assignment or has participated in the activity. A blank or irrelevant submission is not regarded as having participated in the activity. Students who do not fulfil the requirements for participating in the examination have used an examination attempt, see section 14(6). Further specifications regarding the number of compulsory activities, format etc. are stated in the course description of the individual course.

(2) A student who, within the deadline determined under subsection (1), is short on having one or more activities approved as regards the required number of approved activities in the course may, to a reasonable extent, be given one or more extra assignments/participate in one or more extra activities, prior to the ordinary examination (1$^{st}$ examination attempt) in the final examination in the course, see however subsection (3). However, it is a precondition that the student has participated in all set activities, unless it can be documented that lack of submission/participation was caused by illness or similar circumstances. If necessary for practical reasons, a different type of activity may be decided.

(3) In courses where the number of set activities during the teaching period is higher than the number of activities that are required to be approved (x number of y number set activities must be approved), the student may not be given extra assignments/participate in extra activities prior to the ordinary examination in the final examination in the course; this also applies in cases of illness or similar circumstances.

(4) A student who, prior to the re-exam (2$^{nd}$ examination attempt) in the final examination in the course, is still short on having one or more activities approved as regards the required number of

approved activities in the course may, to a reasonable extent, be given extra assignments/participate in extra activities prior to the re-take examination. However, it is a precondition that the student has participated in all set activities, unless it can be documented that lack of submission/participation was caused by illness or similar circumstances. Further specifications regarding the number of compulsory activities, format etc. are stated in the course description of the individual course.

(5) For a student who is to participate in a re-exam under programme regulations which are entered into force after the first time the student was registered for the course in question, the student shall not be subject to any new requirements about compulsory activites resulting from the newer programme regulations.

**Registration for and withdrawal from courses and exams**

**14.** CBS registers the student for the 60 ECTS comprising the coming year of study, and in addition CBS makes a semestrial registration for the student to any not completed courses from previous years of study.

(2) The students register for electives via the Self Service. Students not registered for mandatory courses and electives for a total of minimum 60 ECTS in a year of study, must register for electives, including summer school courses, corresponding to the lacking ECTS in the coming year of study, resulting in the student being registered for a minimum of 60 ECTS in the coming year of study.

(3) If the registration made under subsection (1) is more than 60 ECTS for the student's second year of study, the student may withdraw from elective courses, so that the student is registered for no more than a total of 60 ECTS, or the student may apply for an individual study plan.

(4) The student can be deregistered from one or more courses or course elements where 1) the students is an elite athlete, or where 2) there are extraordinary circumstances, including impairment, and where the student will be unable to fulfil the registration requirement, or where 3) the student is an entrepreneur, see section 18, or where 4) the student is the chairperson of a voluntary organisation under *Dansk Ungdoms Fællesråd (DUF)* and where the student will be unable to fulfil the registration requirement. Deadlines for submitting dispensation applications are determined on the student intranet.

(5) When selecting students for elective courses, a draw is made among the students who fulfil the conditions for taking the elective course in question if there are more applicants for the course than there are available places. For certain electives the selection is not made by lot, but on the basis of a motivational essay; this will be stated on the list with the offered electives on cbs.dk.

(6) Students are automatically registered for an examination or examinations when they are registered for a course or course element with which one or more examinations are associated. Withdrawal from the ordinary exam (1$^{st}$ examination attempt) is not possible, and students have used an examination attempt, see section 27(1), unless an exemption has been granted pursuant to subsection (7). Students who do not fulfil the requirements for participating in the examination as laid down by the university, see section 13(1), have used an examination attempt, see section 27(1), unless an exemption has been granted pursuant to subsection (7).

(7) The university may grant exemptions from the rules set out in subsection (6) where 1) the students is an elite athlete, or where 2) there are extraordinary circumstances, including impairment, or where 3) the student is an entrepreneur, see section 18, or where 4) the student is the chairperson

of a voluntary organisation under *Dansk Ungdoms Fællesråd (DUF)*, see the University Programme Order. Deadlines for submitting dispensation applications are determined on the student intranet.

(8) When a student has used one or more exam attempts in a mandatory course, the student cannot deregister from the course, see s. 12() of the University Programme Order.

(9) The university may grant an exemption to the rule stipulated in subsection (8) if warranted by extraordinary circumstances. When assessing whether extraordinary circumstances apply, none of these circumstances can be taken into consideration: prolongation of the period of study; academic aptitude; and the student's desires as regards the academic content of the degree programme. In addition, in order for an exemption to be granted, the extraordinary circumstance must be both directly linked to the course in question and, over a longer period of time, be preventing the student from completing the mandatory course.

(10) When a student has used one or more exam attempts in an elective course, the student cannot deregister from the course, see s. 13(1) of the University Programme.

(11) The university may grant an exemption to the rule stipulated in subsection (10) if warranted by extraordinary circumstances. When assessing whether extraordinary circumstances apply, none of these circumstances can be taken into consideration: prolongation of the period of study; academic aptitude; and the student's desires as regards the academic content of the degree programme. In addition, in order for an exemption to be granted, the extraordinary circumstance must be both directly linked to the course in question and, over a longer period of time, be preventing the student from completing the elective course.

**Re-exams**

**15.** Students are automatically registered for the re-exam (2nd and 3rd examination attempt) when the student has not passed the exam in question. Within a deadline, the student can withdraw from a re-exam (2nd and 3rd examination attempt), see subsection (5). However, it is not possible to withdraw from the 2nd and 3rd examination attempt as regards the master's thesis. If the student has not withdrawn within the deadline, the student has used and examination attempt, see section 27(1).

(2) On programmes with two annual examination periods (semester examinations), students who have not passed an ordinary examination are automatically registered for the re-exam (2nd examination attempt) in the same examination period or immediately thereafter.

(3) On programmes with more examination periods than in subsection (2), students who have not passed an ordinary examination are automatically registered for the re-exam (2nd examination attempt), which will be held as soon as possible; however, no later than six months after the ordinary examination.

(4) The rules on automatic registration for a re-exam (2nd examination attempt) are dispensed with if the student is not offered the opportunity to fulfil the requirements laid down pursuant to section 13(1) and (3) before the second examination attempt is held. The student is registered for the next examination attempt as soon as possible.

(5) The deadline for withdrawal from an examination is 1 month before the start of the examination in question. However, a student who awaits an assessment is exempt from this deadline as regards the re-exam of the course in question.

(6) For the requirements regarding documentation etc. concerning illness during an examination, reference is made to CBS' rules regarding illness in connection with an examination. Attention must be paid to the documentation deadline stated in those rules.

(7) Re-exams are subject to the learning objectives of the ordinary examination of the examination in question.

(8) Re-exams are conducted according to the examination regulations of the ordinary examination of the examination in question, except when:

1. the examination regulations for the examination in question explicitly contain differing provisions for the re-exam, or
2. it is a written examination and the number of registered candidates for the re-exam warrants that it may most appropriately be held as an oral examination.

(9) It is not possible to determine another examination form for the re-exam of the master's thesis.

**Study start test**

**16.** The student must pass the study start test in order to continue on the programme. An online-course will be available prior to the study start test, and the student will be able to take the online-course as many times as needed. The purpose of the study start test and the online course is to make the students acquainted with academic integrity and provide them with an introduction to source management and correct referencing. In order to pass the study start test, the student must show that he/she knows the rules on academic conduct.

(2) The study start test is held within the first to 2 months from the beginning of the programme. The study start test is a multiple-choice test, and the student has 2 attempts to pass the exam. The re-take will be held within the first 3 months from the beginning of the programme and is also a multiple-choice test.

(3) The student is automatically registered for the study start test. If the student does not participate in the exam, he/she fails the exam and has used one attempt. If a student fails the study start test, he/she will be able to participate in the re-take. If the student does not participate in the re-take, he/she has used one attempt. If the study start test is not passed after 2 attempts, the university will cancel the student's enrolment.

(4) The university may grant exemptions from subsection (1) and (2) when warranted by extraordinay circumstances.

**Extraordinary re-exams and offers of re-assessment/re-exam**

**17.** If an extraordinary re-examination is arranged or offered in accordance with section 30 of the Examination Order (regarding examination irregularities) or the offer of a re-evaluation/re-examination is given in accordance with section 38 or 41 of the Examination Order (regarding complaints about the exam), the re-examination is subject to the learning objectives of the ordinary examination of the examination in question.

(2) Examinations under subsection 1 can be conducted in accordance with the regulations of the re-exam if the examination is an offer of an extraordinary re-exam.

**Entrepreneurs**

**18.** Students who are entrepreneurs in parallel with their studies must document that they are either self-employed with a turnover and productive assets or are part of an entrepreneurial environment, e.g. university incubators and regional growth environments, cf. section 14 (2) of the University Programme Order.

(2) A student who has a registered CVR number in a start-up company with relevance for the student's studies or is able to document that he/she has been enrolled in one of the programmes which are offered by Copenhagen School of Entrepreneurship (CSE) or the like is considered an entrepreneur under subsection (1). The student must follow the registered entrepreneurship programme in accordance with the continuous requirements of the programme.

**Examination forms**

**19.** Examinations are organised as individual examinations or as group examinations. The specific examination form of a given examination, including whether it is an individual or a group examination, or a mixture of the two, is stated in the relevant course description, see links in section 5.

(2) At both individual and group examinations the student's individual performance must be assessed, and grading must be individual, see subsections (3)-(4).

(3) At oral group examinations the individual student must be examined in such a way that it is ensured that the student's individual performance is assessed.

(4) If a written product is produced by more than one student, and if there is no oral defence of the product, it must be stated in the group product which parts of the product the individual student has written, so that individual assessments can be made of the individual students' performances. It must be stated both in the table of contents and at the introduction of the parts of the product which the individual student is responsible for. The individual student's student number is to be noted, not the student's name. The introduction, the problem statement, methodology sections, and the conclusion – including any subconclusions – can be written jointly. If it within the given exam format makes sense to write other relevant sub-elements of the assignment jointly, it must be described in the exam regulations in the course description for the course.

(5) For group examinations, see subsection (1), rules about those of the following factors that are relevant for the examination form in question must be stated in the regulations of the individual examination:

1. maximum group size
2. the allotted time at the oral examination – see subsection (3)
3. requirements regarding individual contributions – see subsection (4).

(6) Where it is stipulated in the regulations of a given examination that it is a group examination, it is stated in the course description if the students can choose to take the examination as an individual examination instead, see however subsection (7). When the examination in question contains both a written and an oral part, both parts must then be taken as an individual examination.

(7) The student can choose to write the master's thesis individually. When the master's thesis has been made by a group, the student can choose to have an individual oral exam.

(8) When it is an oral exam based on a written product, the following applies to all variations:

1. Submission of the written product is a requirement to be able to attend the oral examination.
2. Both the written product and the oral presentation count in the assessment.
3. The assessment is an overall evaluation of the written product and the oral presentation.

(9) If the written element is of a limited extent and only serves as a basis for a broader oral examination in the syllabus (e.g. as at an oral exam based on a synopsis) it will usually be the oral element that constitutes the central basis of the evaluation. The written element will usually only have a marginal effect on the grade.

(10) If the written element clearly constitutes a greater part of the effort, and is therefore the element most central in achieving the learning objectives for this exam (e.g. as a final written exam with oral defense), it will usually be this element that constitutes the central basis of the evaluation. The oral element will usually only have a marginal effect on the grade.

**Examination rules**

**20.** All students have an obligation to familiarise themselves with and to observe the examination rules of the examinations which they participate in, including the general rules that apply to the individual examination. Those rules are in particular:

- The examination rules, as stipulated in the relevant course description, see links in section 5.
- *Rules about written sit-in examinations at CBS, including rules about electronic aids*, see section 21(3).
- *Rules about online oral exams*
- Rules on good academic conduct, see section 4 of *Copenhagen Business School's rules and regulations on academic conduct, including penalties*.

(2) Audio and video recordings of an examination or of the examiners' discussion of a student's performance are not allowed, unless such recordings are considered an integral part of the examination process. Such recordings will then be made by CBS.

(3) It is stipulated in the examination regulations of the individual examination what the maximum number of pages is for a given written product. This pertains to the examination forms written home assignment and oral exam based on a written product. In addition, the following applies for the written product with these two examination forms:

1. In the page count the front page, the bibliography and any appendices are not included. Appendices are not part of the assessment.
2. All pages must have a margin of min. 3 cm in top and bottom and min. 2 cm to each of the sides. The font must be minimum 11 points.
3. The table of contents, tables, diagrams, illustrations etc. are not included in the number of characters, but will not justify exceeding the maximum number of pages.
4. On average, one page must not contain more than 2,275 characters (including spaces).

(4) Upon digital submission the student declares that the submitted product complies with the rules for good academic conduct, form requirements and maximum size, via a digital declaration of authorship.

(5) Any violation of rules and regulations under subsections (1)-(2) will be sanctioned in accordance with *Copenhagen Business School's rules and regulations on academic conduct, including penalties.*

(6) Violation of form or layout requirements stipulated in subsection (3)-(4) or form requirements laid down under section 19(4) may result in a rejection of the exam paper, see section 22 of the Examination Order. If the exam paper is rejected, it will not be assessed, and the student will have used an exam attempt.

**Examination aids**

**21.** The examination aids that students are allowed to bring with them to written sit-in examinations are specified in the examination regulations of the individual examination/course.

(2) Unless otherwise stated in the examination regulations, see subsection (1), no examination aids, whether written or technical, are allowed in the examination room, except simple writing and drawing utensils.

(3) In cases where the examination regulations, see subsection (1), stipulate that electronic aids can be brought to the examination room, the provisions stipulated in *Rules about written sit-in examinations at CBS, including rules about electronic aids* apply.

**Examinations under special circumstances**

**22.** The Study Board may decide to deviate from the examination regulations stipulated for the individual examination with the purpose of allowing students with special needs to sit examinations under special circumstances. Such exemption can be granted to students who are physically or mentally disabled, to students whose mother tongue is not Danish, and to students who have similar difficulties when this is considered necessary in order to place them on even terms with their fellow students in the examination situation. It is a condition that it does not change the academic level of the examination.

(2) When it is stipulated in the objectives of the examination in question that the student's spelling and writing skills are included in the assessment, the Study Board may grant exemption from this to a student who is able to document a relevant and specific impairment.

(3) Students who wish to apply for permission to sit an exam under special circumstances according to subsection (1) or apply for an exemption according to subsection (2) must submit an application via dispensation.cbs.dk. no later than 2 months before the exam is to take place.

**Conducting virtual examinations and examinations abroad**

**23.** The university may conduct oral exams as virtual examinations.

(2) The Programme Director decides, when warranted by special extraordinary circumstances, whether - an oral exam can be conducted as an online oral exam.

(3) When an examination is conducted as a virtual exam CBS' rules about online oral exams apply.

**23a.** The university may conduct examinations at a Danish representation or at other locations abroad, provided the reason for doing so is that the student is unable to participate in the university's examinations in Denmark for practical or financial reasons and if the student and the exam location

reach an appropriate agreement. Danish examinations held abroad must comply with all the other rules laid down in the Examination Order.

(2) The Programme Director decides whether the examination can be conducted abroad and appoints or approves persons to organise the practical aspects of conducting the examination abroad.

(3) The university defrays the special costs associated with conducting examinations abroad.

(4) The Ministerial Order on Payment for the Services of Civil Servants Serving Abroad (Bekendtgørelse om betaling for tjenestehandlinger i udenrigstjenesten) applies to conducting examinations at Danish representations abroad.

(5) The university may ask the student to pay part or all of the costs incurred by the university to conduct the examination abroad. However, it is a condition that the student confirms in writing in advance his or her willingness to pay the costs in question, on the basis of an estimate made by the university of the expected costs. The university may make it a condition for conducting the examination that the amount is paid in advance.

(6) When an examination is conducted abroad, the conditions and regulations in CBS' guidelines for examinations conducted abroad apply.

**Assessment**

**24.** Examinations are either internal or external:

- Internal examinations are assessed by one or more teachers (internal examiners) appointed by CBS from among the teachers at the university or from other universities that offer the same or similar study programmes.
- External examinations are assessed by one or more internal examiners and one external examiner (in Danish: censor) appointed by the Danish Agency for Higher Education and Science.

(2) It is stipulated in the exam regulations of the individual examination whether it is an internal or an external examination, see link in section 5.

(3) Assessment of the examinations is carried out in accordance with the Grading Scale Order.

(4) Compulsory assignments and class participation, see section 13, are assessed by the teacher(s) of the specific course. The assessment type 'Approved/Not approved' is used.

**Announcement of results**

**25.** In connection with examinations where the result is not announced immediately after the examination, the result must be announced within 4 weeks after the examination has been held, see however subsection (2). The month of July is not included in the calculation of these 4 weeks.

(2) In connection with bachelor projects, master's (candidatus) theses and master's projects, the result must be announced no later than 6 weeks after the project/thesis has been submitted.

(3) When special circumstances warrant it, the Programme Director can set aside the deadlines stipulated in subsections (1) and (2). If the assessment cannot be completed by the fixed deadline,

the student(s) must be notified as soon as possible and be informed about the reason for the delay and when the result will be announced.

**Pass requirements**

**26.** Each examination must be passed separately. An examination shall be passed when the student achieves a grade of at least 02 or the assessment ‘Pass’.

(2) Each examination can be retaken separately. However, passed examinations cannot be retaken.

(3) If a grade consists of several partial grades for various categories of performance (partial examinations), the grade shall be the average of the partial grades, rounded off to the nearest grade on the grading scale, see however subsection (4). The grade shall be rounded up if the average is half-way between two grades.

(4) If the partial grades are given different weights when the combined grade is to be calculated, this is stipulated in the exam overview in section 5. If so, the grade shall be the sum of the individual grades, each multiplied by the weighting of the grade, divided by the sum of the weightings and then rounded off to the nearest grade on the grading scale. The grade shall be rounded up if the average is half-way between two grades.

(5) If an examination consists of partial examinations, each partial examination can be retaken separately. However, passed partial examinations and not-passed partial examinations that are part of a passed examination cannot be retaken.

(6) Any requirements about a certain grade on the grading scale being required as achieved in one or more partial examinations are stipulated in section7.

(7) If an elective course has partial exams, the pass requirements for the specific elective course apply.

(8) The calculation of the overall grade point average is based on the weights of the individual grades, which are listed in the table in section 5.

(9) If a student retakes an examination or another type of assessment, the highest grade applies – see however section 42 of the Examination Order.

**27.** Students have a maximum of three attempts in passing each examination, see however subsection (2). The Study Board may grant more attempts, if warranted by extraordinary circumstances. The question of academic aptitude may not be included when assessing whether extraordinary circumstances apply.

(2) No later than 16 months after the end of the teaching of the course, the student must participate in the third examination attempt if the course is no longer offered. If the course is offered each semester, the deadline for completing the course is 10 months after the end of the teaching of the course.

(3) Students who are to have their class participation assessed a second time may require an examination instead. However, where class participation includes practical exercises, it cannot be replaced by an examination.

**Diploma**

**28.** CBS issues a diploma to students who have completed their study programme, in accordance with the requirements stipulated in section 51 of the Examination Order. The diploma is issued to the graduate no later than 2 months after the announcement of the result of the final examination. July is not included in the calculation of these 2 months.

(2) Students who leave the programme without having completed it are entitled to receive a transcript documenting the completed parts of the programme, with the relevant number of ECTS credits stated.

**Leave**

**29.** A student may be granted leave from the programme on personal grounds. The specific rules for obtaining leave and the provisions that apply to students while on leave are stipulated in CBS' *Rules regarding leave on bachelor and master programmes at CBS*.

**Programme regulations**

**30.** The programme regulations and various regulations etc. referred to in this document are publicly available on CBS' website, more specifically on studieordninger.cbs.dk and in the study administrative rules (SAR).

**Exemption from the programme regulations**

**31.** The university may, when warranted by extraordinary circumstances, grant exemptions from those rules in the programme regulations which are solely laid down by the university.

(2) An exemption from the programme regulations that requires an exemption from a ministerial order may be brought before the Danish Agency for Higher Education and Science.

**Credit transfer**

**32.** Programme elements passed at another university are regarded as equivalent to corresponding programme elements covered by these programme regulations.

(2) The Study Board may grant approval for students to substitute passed programme elements from another Danish or foreign programme of the same level, for programme elements covered by these regulations.

(3) Decisions under subsections (1) and (2) are made on the basis of a professional assessment.

**33.** Students who, as part of their studies, wish to complete programme elements at another university or another institution of higher education in Denmark or abroad may apply to their home university for pre-approved credit transfer for planned programme elements.

(2) Approval of pre-approved credit transfer pursuant to subsection (1) may only be granted if, in connection with the application for preapproved credit transfer, the student undertakes to submit to the home university the necessary documentation to show whether the programme elements have been passed or failed upon completion of the programme elements for which pre-approved credit transfer has been granted. Students must also consent to the home university requesting the

necessary information from the host institution if students are unable to procure the documentation themselves.

(3) Once documentation is available that the student has passed the programme elements for which pre-approved credit transfer has been granted, the home university administratively approves the transfer of the credit to the relevant programme at the university.

(4) In cases where the programme elements for which pre-approved credit transfer has been granted are, for example, not offered by the host institution, the university may, upon the student's request, change the approval of pre-approved credit transfer pursuant to subsection (1). The student is responsible for and is obliged to take the initiative to compose a proposal for a study plan. The university offers academic support if requested by the student. In special cases, the chair of the Study Board may approve changes to the Study Board’s decisions about pre-approved credit transfer.

(5) Decisions under subsections (1) and (4) are made on the basis of a professional assessment.

(6) Credit transfer of Master theses is not possible when the thesis is the basis of the awarding of a different title in another Master programme.

**34.** Programme elements which students wish to have transferred from other programmes will be transferred on the basis of the normalised workload specified in ECTS points and stipulated in the relevant degree regulations. Due to the structure of the programme, discrepancies may occur between the equivalent number of ECTS credits and the actual amount of ECTS transferred, as the number of ECTS credits for the programme must total the number of ECTS credits stated in section 1(1).

(2) If the programme element in question is assessed according to the 7-point grading scale or the 13-point grading scale at the academic institution at which the examination was taken, and if this programme element equates or replaces a programme element which according to the exam regulations of these study regulations is assessed according to the 7-point scale or the 13-point scale, the grade will be transferable, but converted into the 7-point scale if assessed according to the 13-point scale. In all other cases, the assessment will be transferred as ‘Pass’. Examinations transferred as ‘Pass’ are not included in the calculation of the final grade point average.

**35.** Applications for pre-approval or credit transfer must be sent to the Study Board via credit.cbs.dk. See guidance on credit transfer applications on the student intranet.

(2) Concerning complaints about credit transfer decisions, see part 3.

## Part 3: Complaints

**Complaints about examinations etc.**

**36.** A student is entitled to file a complaint about an examination or other assessment. Concerning the specific rules and procedures, including deadlines, for filing written and reasoned complaints reference is made to the rules in part 9 of the Examination Order and to CBS' guidelines on CBS' student intranet.

**Complaints about decisions concerning credit transfer**

**37.** Complaints about decisions made by the Study Board on whether education qualifications acquired at another Danish University may replace parts of the programme (credit transfer) as well as complaints about the decisions made by the Study Board on whether Danish or foreign education qualifications, not yet passed, may replace parts of the programme (pre-approval of credit transfer), may be brought before the Appeals Board for decisions on credit transfer, see Ministerial Order no. 1517 of 16 December 2013 on the Appeals Board for decisions on credit transfer in university study programmes.

(2) The deadline for filing a complaint is 2 weeks from the date when the complainant was informed of the decision. The complaint must be addressed to the Appeals Board for decisions on credit transfer but sent to the President of CBS; the reasoned complaint should be sent to CBS Legal, Solbjerg Plads 3, 2000 Frederiksberg. It is also possible to send the complaint to: legal@cbs.dk. CBS has the option to process the application again. If the decision is upheld, CBS will forward the complaint to the Appeals Board, accompanied by a statement. CBS will give the complainant the opportunity to comment on the statement within a time limit of 1 week. The complainant's comments, if any, will be enclosed when the complaint is forwarded to the Appeals Board. The Appeals Board will make the final administrative decision.

**38.** Complaints about decisions made by the Study Board on whether education qualifications acquired abroad may replace parts of the programme (credit transfer) may be brought before the Qualifications Board, see Assessment of Foreign Qualifications etc. Act.

(2) The deadline for filing a complaint is 4 weeks from the date when the complainant was informed of the decision. The complaint must be addressed to the Appeals Board for decisions on credit transfer but sent to the President of CBS; the reasoned complaint should be sent to CBS Legal, Solbjerg Plads 3, 2000 Frederiksberg. It is also possible to send the complaint to: legal@cbs.dk. CBS has the option to process the application again. If the decision is upheld, CBS will forward the complaint to the Qualifications Board, accompanied by a statement. CBS will give the complainant the opportunity to comment on the statement, within a time limit of 1 week. The complainant's comments, if any, will be enclosed when the complaint is forwarded to the Qualifications Board. The Qualifications Board will make the final administrative decision.

**Complaints about other decisions**

**39.** Complaints about decisions made by the Study Board or the Programme Director according to these programme regulations have to be filed with the President of CBS. The deadline for filing a complaint is 2 weeks from the date when the complainant was informed of the decision.

(2) A decision made by CBS according to subsection (1) may be appealed by the complainant to the Danish Agency for Higher Education and Science when the complaint is concerned with an error of

law or procedure. The deadline for lodging an appeal is 2 weeks from the date when the complainant was informed of the decision. The reasoned appeal should be addressed to the agency but sent to CBS Legal, Solbjerg Plads 3, 2000 Frederiksberg. It is also possible to send the complaint to: legal@cbs.dk. CBS will forward the appeal to the agency, accompanied by a statement. CBS will give the complainant the opportunity to comment on the statement, with a time limit of at least 1 week. The complainant's comments, if any, will be enclosed with the other case files when the appeal is forwarded to the agency.

(3) Moreover, students are referred to CBS' Guidelines regarding students' right to file a complaint about decisions made by study boards, programme directors and programme administration.

**Complaints about the teaching etc.**

**40.** Complaints about the teaching, academic supervision or other issues concerning the organisation of the degree programme can be brought before the Study Board.

## Commencement and transition regulations

**41.** These Programme Regulations are effective for students enrolled on the programme in September 2022 or later, and for students who are transferred to these Programme Regulations, see section 42(1).

(2) The 2021 Programme Regulations are repealed as of 1 September 2022.

**42.** Students who began their studies under the 2021 Programme Regulations, or according to the transition regulations in those regulations were transferred to the 2021 Programme Regulations, are transferred to these 2022 Programme Regulations, so that these are effective for the remainder of the programme.

(2) Students covered by subsection (1) who have not yet passed the first semester course 'Health Care Innovation Management' shall take the exam in the course 'Health Care Innovation and Management'.

**Appendix**

**Competency profile for MSc in Business Administration and Innovation in Health Care (IHC)**

**Purpose and academic profile**

The Master of Science (MSc) in Business Administration and Innovation in Health Care (IHC) is a theory-based graduate-level program emphasizing the training of actionable innovation skills.

The objective of IHC is to offer a distinctive, new set of skills to collaborators of health care systems (including healthcare providers, firms and start-ups) both in Denmark and internationally. These skills will be targeted specifically at the public and private organizations of healthcare system which over the coming decades will take health care through major transformations. IHC students will be trained to scout, initiate, manage, and implement innovations in this complex setting in the context of both existing healthcare organization or firms, or by establishing new ventures.

Innovations in healthcare must fit into complex institutional and regulatory settings and typically involve a variety of disciplines and organizations. It is therefore essential that students are prepared to operate in highly heterogeneous settings. IHC students should also acquire the ability to collaborate with people from different backgrounds in problem solving.

**Learning outcomes**

Upon completion of the IHC program students should understand / have developed:

- Understand the technological and economic drivers of change affecting the health care system and the interdependencies between its components. (NN1)
- Understand the components and processes of innovations and the frameworks to foster the commercialization of new products and services (NN1; NN3)
- Understand the differences between major types of health care systems around the world, including their basis in specific societal contexts and implications they have for innovating new health care services. (NN1; NN9)
- Understand the particular institutional, regulatory and professional context of the health care system, including the conditions affecting private-public collaboration. (NN1; NN7; NN8)

- Understand the work practices of health care organizations, including relationships to patients. (NN3; NN5)
- Understand the theories interpreting the challenges associated with innovations in the health care system. (NN2; NN5)
- Understand the tools applied in the management of innovations, their implementation and commercialization. (NN2)
- Understand the data analytics tools to analyse qualitative and quantitate data of different sorts, from market demand to health outcomes (NN2)

- Ability to assess technological opportunities for improvements for patients, for innovating firms or for health care organizations. (NN2; NN3)
- Ability to analyze and anticipate how innovations and new technologies are best implemented within healthcare organizations. (NN1; NN2)
- Ability to analyze key aspects of commercialization for health care innovations in terms of IPR, financial performance and planning, competitive environment etc. (NN1; NN2)
- Ability to conducting collection and analysis of data inside and outside firms and healthcare organizations, using relevant methodologies, and demonstrating an understanding of the potentials and limitations of those methodologies (NN2)
- Ability to analyze data namely to examine expected innovation outcomes based on the alignment of stakeholder interests across public-private differences, variations across professional groups and different levels of the political system (from national to municipal government). (NN1; NN2; NN3)
- Ability to develop and bring new medtech products or healthcare services to market via the creation of new ventures. (NN3)
- Capability to develop, assess, and implement innovations and novel solutions or products for the health care system. (NN5; NN6; NN7)
- Capability to prepare and manage effective diffusion of innovations. (NN4; NN7)

- Capability to manage the interplay between public and private actors in the health care system. (NN9)
- Capability to prepare and undertake the commercialization of innovations in markets for health care products or solutions both in the context of existing organization or via the creation of new firms. (NN7; NN9)
- Capability to apply an integrated view on the implications of innovations for patients, effectiveness/ competitiveness, including ethical aspects. (NN4; NN5; NN6; NN8)
- Capability to design business models based on their appropriateness for specific innovations in specific markets and institutional contexts. (NN4; NN6)
- Capability to understand and recommend the best ways for host organization (firms or healthcare providers) can implement and utilize the results of the Healthcare Innovation project (NN7)

# Part 4: Appendix - regulations for the Portugal Platform

### 43. Learning objectives and rules regarding exams at Nova School of Business and Economics

Information about exam attempts and re-take exams will be available here by 1 September 2022.

For further information regarding assessment, see the university homepage.

**Entrepreneurial Journey**

The syllabus is aligned to provide students a close-to-reality experience of an entrepreneur's journey, since the idea inception until the venture comes to reality. These sessions, in seminar/workshops format, are intended to support students through the development of their entrepreneurial idea.

*Intended learning outcomes*

1. Knowledge and Understanding

- Understand what constitutes a business idea worth pursuing
- Identify stressors and develop frameworks of action to manage them
- Reflect on the decision making process of problem solving
- Understand the influence of leadership styles on group and venture performance

2.Subject-Specific Skills

- Identify feasible and viable business ideas
- Create effective strategies towards stress management and work-life balance
- Develop decision making frameworks to solve complex problems
- Adapt leadership styles to the challenges of a new venture

3. General Skills

- Personal development
- Team dynamics and conflict

*Syllabus*

The course is composed of 4 modules, each corresponding to a topic, as follows:

1. Design Thinking
2. Well-being and stress management
3. Coaching
4. Leadership

**Entrepreneurship with Impact**

The course design aims to provide students with an in-depth experience of the process of social entrepreneurship. As a group, students are expected to identify a social problem, design and test an innovative solution using the tools provided in the course lectures, and pitch their solution to social investors. Classes methods are mixed between lecture, work sessions, and case and guest presentations. Students are expected to have a high degree of participation in class. Students are also expected to make a contribution to social entrepreneurship theory by producing a briefing paper on one of the lecture topics.

*Intended learning outcomes*

1. Knowledge and Understanding - demonstrate competency in the underlying concepts, theory and tools taught in the Management of Non Profit Organizations course.
2. Subject-Specific Skills - be familiar with the unique features of the nonprofit sector, and how they influence decisions made by the managers regarding human resources, marketing, financial sustainability and other aspects of a nonprofit's activities.
3. General Skills - strengthen the analytical and critical thinking skills as well as communication skills needed to identify, analyse, and evaluate solutions to challenges encountered in the nonprofit sector.

*Syllabus*

1. Overview of Social Entrepreneurship
2. Problem Analysis
3. Value Proposition
4. Solution
5. Disruptive Business Models for Impact
6. Pilot
7. Impact Assessment / Theory of Change
8. Funding
9. Scaling and Growth
10. Pitch Development

**Opportunity Identification**

The goal is to combine the theoretical (yet applied) knowledge related to the multiple aspects of new venture creation with a "hands-on" approach. This approach includes learning from case studies and the literature, as well as a first-hand perspective, where students develop their own business idea, plan it, and pitch it in front of an audience. Overall, the course provides students with frameworks to identify and develop opportunities and convert them into coherent business solutions whether for start-up purposes or for the launch of new corporate initiatives.

*Intended learning outcomes*

The aim of this course is to equip students with the broad range of skills and perspectives required to pursue a career in entrepreneurship or to apply entrepreneurship thinking processes to their career.

1. Knowledge and Understanding:

- Development of a holistic understanding of a new business ideation and the steps to consolidate it;
- Understanding of the sources of new business ideas and opportunities;
- Understanding of the behavioral, strategic, managerial and organizational challenges faced by entrepreneurs.

2. Subject-Specific Skills:

- Selection of a business idea in accordance with its potential and the abilities of the entrepreneurial team;
- Developing the design of a business model for a new venture;
- Presentation/Pitch of the complete start-up design.

3. General Skills:

- Critical thinking;
- Communication skills;
- Strategic skills;
- Relational skills.
- Presentation & pitching skills

*Syllabus*

The course will cover the core aspects of entrepreneurial thinking whilst working with student teams on their group projects. This means that session content will be adjusted to student progress.

1. Pain points and potential solutions
2. Ideation and the initial ideas
3. From ideas to business model
4. Scaling the model to a business

**Metrics that Matters**

This course introduces students to a social impact structure. It will introduce concepts, which will be fully explored in subsequent courses, notably on causality, evaluation and cost-benefit analysis. We will approach techniques of use, with quantitative emphasis.

*Intended learning outcomes*

1. Knowledge and Understanding

- Understand the importance of measuring social impact;
- Appreciate the concepts of causality and theory of change;
- Know the basic cost-benefit framework of policy analysis;

- Recognize the different possibilities of measuring social impact.

2. Subject-Specific Skills

- apply the concept of theory of change, the framework of cost benefit, and the plethora of measurement methods to specific social impact cases.

3. General Skills

- confidently understand how the framework of measuring social impact is organized.

*Syllabus*

The course will begin by discussing how important measuring social impact is. It will then introduce the idea of causality and theory of change. A first look at cost-benefit analysis will follow, grounded on economics. It will then cover different measurement techniques, including survey and observational methods. Finally, it will relate measurement to the availability of big data and discuss the concept of lean data.

**Product Design and Development**

The aim of this course is to guide the students through the steps of new product development, help to familiarize with several concepts and methods for ideation, creation, testing and prototyping. Students will work in groups and lead a design process through the front-end steps, from market discovery to prototyping and presentation. At the end of the course students should be able to understand the different steps, what they contribute and how the design process creates a product or service that can be launched in the market.

*Intended learning outcomes*

1. Knowledge and Understanding: product design process; role of the product designer and organizations; customer requirements or opportunities; product benchmarking; concept generation and testing; design considerations; business case; pitching and storytelling; intellectual property rights; project management.
2. Subject-Specific skills: creativity; estimation; benchmarking; sketching; brainstorming; prototyping; storytelling.
3. General skills: teamwork; analytical thinking; multi-disciplinary; project management.

*Syllabus*

Week 1:

- Introduction to new product development process
- The role of PD in organizations and case studies
- Review of the objectives of the course
- The design brief: the challenge
- Project management

Week 2:

- Understanding customer requirements
- Concept generation methods

Week 3: Deep dive into the design challenge

Week 4: Design considerations, creativity

Week 5:

- The business case, Prototyping
- Storytelling and pitching
- Intellectual Property Rights

Week 6: Pitch day

**Science-based Entrepreneurship and Innovation**

The aim of this course is to show how new global business ventures based on real scientific breakthroughs are planned and built. The crucial role of startups and entrepreneurship in modern societies is well understood; however, entrepreneurial projects differ greatly depending of various factors, notably in terms of the added value of the products or services they aim to bring to the market. Many of the most valuable business breakthroughs of the last few decades were brought about by companies built upon cutting-edge science and technology. In this course students will be exposed to the specificities of businesses that are born out of research and development (R&D) in areas such as biotech, biomedicine, cleantech, foodtech and nanotech, and they will learn how to build a value proposition in such complex technological fields.

*Intended learning outcomes*

1. Knowledge and Understanding: show a good grasp of the differences between traditional SMEs and Innovation-Driven Enterprises (IDEs); understand the specificities of business models in different technological fields; effectively communicate a science-based value proposition; build a business case starting from a science-based value proposition.
2. Subject-Specific skills: building a science-based value proposition; communicating scientific concepts; understanding critical skills in technological startups companies.
3. General skills: communication; leadership; innovative thinking; entrepreneurial thinking.

*Syllabus*

Students will learn about, and be able to elaborate on, topics including capital requirements and funding strategies, the importance of intellectual property, product development cycles, regulatory hurdles, and critical skills needed to bring revolutionary, science-based products and services to the market. Emphasis will be given to the early (startup) stages of company creation and growth.

**Entrepreneurial Strategy**

*Course unit aims*

At the end of the course, you should be able to:

1 Explain why a buoyant transfer market is fundamental to an entrepreneurial economy;

2 Focus on the process through which entrepreneurial firms are able to gather the strategic resources needed to support their growth and bring

their products and services to market;

3 Understand the typology of resource providers available to entrepreneurs, as well as their incentives;

4 Understand the liquidity events through which the entrepreneurial cycle ends, as well as their differences and similarities;

5 Develop written and oral communication skills through group discussions, in-class presentations and coursework;

6 Think critically about entrepreneurial organizations¿ issues and dilemmas. This will be accomplished by gathering and synthesizing

information, analyzing alternative perspectives and options, and presenting a considered opinion or course of action.

*Course unit content*

Session 1 (September 7):

Introduction to the Course. What is strategy? What is Entrepreneurship?

Session 2 (September 14):

Raising Capital ¿ Understanding the Alternatives

Session 3 (September 21):

Angel Investing

Session 4 (September 28):

Venture Capital & Corporate Venture Capital

Sessions 5 (October 12):

Exiting Options ¿ IPOs & Acquisitions

Sessions 6 (October 15 - FRIDAY):

Company pitches and course wrap-up

*Demonstration of the coherence of the syllabus with course unit aims/learning objectives*

The course contents are closely aligned with the learning objectives laid out by the curriculum.

*Teaching and learning methods*

The course will be based on case studies, group exercises and a mix of lectures and class discussions.

Case Studies. Roughly half of the sessions will be devoted to the analysis and discussion of cases. The case method is an effective pedagogical

tool to sharpen your analytical and decision-making skills and it requires you to be an active participant in decision making. Moreover, the case

method provides a vehicle by which to apply theories, concepts, and frameworks that we will discuss in class or that you wil find in the assigned

readings. Finally, the discussion constitutes an opportunity to defend your position and to learn from others, by listening to their comments and

insights.

Interactive Lecture. The remaining portion of the sessions follows an interactive lecture format, which is aimed at the introduction of the

theories, frameworks and concepts applicable to the course. These lectures lay the foundations for a well-grounded discussion of the cases that

will follow. Please note that the lectures will often be accompanied by assigned readings, which are meant to be complementary to the subject

matter covered in class. This means that the lectures and the readings are not substitutive in nature and that I expect you to be active during the

former and fully prepare the latter prior to class.

*Assessment*

10% Peer evaluation

10% Attendance and participation

40% Company pitch / report & investing decision

40% Final exam

**Professional Development Modules**

The course is composed of 4 units of 0.5 ECTS each.

A. Quantitative skills: Learning to analyze data.

B. Ethics:  Thinking about ethical challenges.

C. Corporate links/internationalization: Study visit to Hospital da Luz Learning Health (The largest clinical simulation centre in Portugal)

D. Communication and creativity: Patient Innovation Bootcamp Demoday