Uitvoeringsregeling OER Bachelor of Industrial Engineering & Management 2017-2018 (voltijd)

Hoofdstuk 1 Algemene bepalingen Uitvoeringsregeling OER HZ

1.1 algemeen

1.1.1 De onderwijs- en examenregeling (OER HZ) omvat de kern van de onderwijs binnen de HZ. Dat document geeft een algemeen beeld van alle opleidingen die door de HZ worden verzorgd. De OER HZ bevat instellingsspecifieke bepalingen die dus voor de gehele HZ gelden. Voor elke opleiding wordt jaarlijks door het college van bestuur een opleidingsspecifieke Uitvoeringsregeling OER HZ (hierna: Uitvoeringsregeling) vastgesteld.

1.2 opleidingscommissie

1.2.1 De opleidingscommissie wordt in de gelegenheid gesteld om voorafgaand aan de vaststelling van de betreffende Uitvoeringsregeling advies uit te brengen aan het college van bestuur.

1.2.2 De opleidingscommissie beoordeelt jaarlijks de wijze van uitvoering van de onderwijs- en examenregeling en de betreffende Uitvoeringsregeling.

1.3 academiedirecteur

1.3.1 De betrokken academiedirecteur is verantwoordelijk voor:

a. de uitvoering van de OER HZ;
b. invulling en uitvoering van de Uitvoeringsregeling;
c. jaarlijkse evaluatie ten behoeve van het college van bestuur van de OER HZ en de Uitvoeringsregeling, waarbij hij het tijdsbeslag weegt voor de studenten, dat daaruit voortvloeit ten behoeve van de bewaking en zo nodig bijstelling van de studielast (art. 7.14 WHW);
d. voorbereiding van aanpassingen van de Uitvoeringsregeling.

Hoofdstuk 2 Uitvoeringsregeling OER HZ

2.1 Inschrijving, vooropleidingseisen en toelatingsbeleid

2.1.1 Overzicht nadere vooropleidingseisen (art. 2.3 OER HZ in aanvulling op de eisen zoals verwoord in artikel 2.2 OER HZ)

Havo-profielen	NT	NG	EM	CM
Opleiding:				
Student met havo-diploma tot 1-8-2009	Voldoet	Voldoet	Voldoet	Voldoet indien aangevuld met wiskunde A of B
Student met havo-diploma vanaf 1-8-2009	Voldoet	Voldoet	Voldoet	Voldoet indien aangevuld met wiskunde A of B

Vwo-profielen	NT	NG	EM	CM
Opleiding:				
Student met vwo-diploma tot 1-8-2010	Voldoet	Voldoet	Voldoet	Voldoet indien aangevuld met wiskunde A of B
Student met vwo-diploma vanaf 1-8-2010	Voldoet	Voldoet	Voldoet	Voldoet indien aangevuld met wiskunde A of B

Overzicht van mbo-*domeinen* die **geen** directe toegang geven tot hbo-*sectoren*
• **het mbo-domein handel en ondernemerschap naar de hbo-sector techniek**
• **het mbo-domein economie en administratie naar de hbo-sector techniek**

2.1.1.1 International enrolment 240 EC track (article 2.2, 2.3 2.8 CER HZ)
Niet van toepassing.

2.1.2 Deficiëntie-onderzoek (art. 2.4 OER HZ) (art. 2.3 lid 4 OER HZ - mbo)
Niet van toepassing.

2.1.3 Aanvullende eisen (art. 2.5 OER HZ)
Voor de opleiding Industrial Engineering & Management gelden geen aanvullende eisen.

2.1.4 Toelatingseisen werkkring bij deeltijdopleiding (art. 2.6. OER HZ)
Zie uitvoeringsregeling deeltijdopleiding Technische Bedrijfskunde 2017-2018.

2.1.5 Toelatingseisen werkkring bij duale opleidingsvariant (art. 2.7. OER HZ)
De opleiding Industrial Engineering Management heeft geen duale opleidingsvariant.

2.2 Inrichting opleiding en onderwijs

2.2.1 Opleidingsprofiel (art 3.2 OER HZ)
De opleiding Technische bedrijfskunde leidt breed inzetbare ingenieurs op die bij bedrijven bedrijfsprocessen gaan beheren, verbeteren en herontwerpen. Met respect voor mens en omgeving is de TKB-er vanuit groen, duurzaam en circulair-economisch perspectief van waarde voor onze maatschappij. Bedrijven worden geconfronteerd met continu veranderende eisen. Steeds sneller moeten productieprocessen worden aangepast of is het

nodig om nieuwe productieprocessen te ontwerpen. Door de snelle technologische veranderingen en hogere eisen van de markt wordt de levenscyclus van producten ook korter. Ook worden bedrijven door het schaarser worden van grondstoffen genoodzaakt om te zoeken naar materialen en processen die steeds duurzamer moeten zijn.

Het managen van deze veranderingen vraagt om professionals die technisch onderlegd zijn en in staat zijn deze ontwikkelingen te integreren en te organiseren binnen productieprocessen in organisaties. Met respect voor mens en omgeving is de TKB-er vanuit groen, duurzaam en circulair-economisch perspectief van waarde voor onze maatschappij. Vanuit de bedrijfsvisie zet de technisch bedrijfskundige op een efficiënte en effectieve manier mensen en middelen in om bedrijfsdoelen te realiseren.

In samenwerking met vrijwel alle disciplines in een organisatie brengt de technisch bedrijfskundige adviezen uit of hij bedenkt oplossingen voor de vraagstukken waarmee de organisatie continu wordt geconfronteerd door de veranderende omgeving. Hierbij analyseert de technisch bedrijfskundige op methodische wijze processen, structuren, systemen en culturen en geeft advies om deze effectiever en/of efficiënter te maken

Ieder onderwijsblok (= ieder kwartaal per jaar) wordt uitgegaan van daadwerkelijke beroepsproducten die een student in zijn toekomstige beroep kan moeten opleveren. Om deze beroepsproducten te kunnen opleveren dient de student ook daadwerkelijk opdrachten uit te voeren bij bedrijven. Bedrijven leveren hiervoor cases en projecten. De opbouw van deze projecten zijn door de opleiding gedefinieerd. In jaar 1 leveren bedrijven wel concrete cases, niet het concrete project. Studenten leren omgaan met real life cases, de echte opdracht/het project wordt door de opleiding geformuleerd. Hiermee zorgt de opleiding dat eerstejaars studenten op niveau 1 werken, vanuit een non-complexe situatie).

2.2.2 Competenties (art 3.2 OER HZ)

Competence	Sub task	Learning outcome
C1-Analysis	DT-1.a-Selection of relevant aspects in respect of the question/issue	LD-1.a.1- Analyse the technological level, the level of maintenance, and the level of usage of an asset from a maintenance perspective
		LD-1.a.2- Analyse the technological, organisational and cultural context of a maintenance situation.
		LD-1.a.3- Analyse the value, efficiency, the risks and the available controlling mechanisms for a given process.
		LD-1.a.5- List and describe the characteristics of a given asset.
		LD-1.a.6- Present an analysis to (re-)design and/or change a given process
	DT-1.b-Indication of the possible influence on commercial, social and specialist subject-related aspects	LD-1.b.2- Apply knowledge of market positioning and and market developments
		LD-1.b.3- Assess the importance of the creation of business strategies and their impact on technology
		LD-1.b.4- Describe the value and risks for a given asset.
		LD-1.b.5- Evaluate a choice for the long-term on relevant criteria.
	DT-1.c-Formulating a clear problem outline, objective and assignment according to the wishes of the customer	LD-1.c.1- Compare the existing structures, procedures and behaviour in a maintenance situation with the results of the analysis
	DT-1.d-Drawing up a schedule of (technical and non-technical) requirements and laying down those requirements	LD-1.d.2- Evaluate tactical and strategic choices on relevant criteria
		LD-1.d.3- Explain interrelations and differences between long term performance and short term performance
		LD-1.d.4- Prepare and validate multi-criteria-analysis
	DT-1.e-Modelling an existing product, process or service	LD-1.e.1- Apply statistics and probabilities in the analysis of an existing product, process or service.
		LD-1.e.2- Assess business processes and propose improvements including process redesign
		LD-1.e.3- Describe business process (including maintenance processes) and systems and their performance.
		LD-1.e.4- Describe degradation mechanisms

C2-Design	DT-2.a-On the basis of the requirements imposed, is the ability to elaborate and select a concept solution (architecture)	LD-2.a.1- Find technological developments applicable for design
	DT-2.b-Producing detailed designs according to the selected concept solution (architecture)	LD-2.b.1- (re-)design of assets
		LD-2.b.3- Create an adequate plan to put the chosen (re)design into operation
		LD-2.b.4- Describe the operational characteristics of processes and assets
	DT-2.c-The ability to take into account of the makeability and testability of the design	LD-2.c.1- Define testing procedures and instruments.
	DT-2.d-Verifying the design according to the schedule of requirements	LD-2.d.1- Manage maintenance (re)design tasks in a methodical adequate way
		LD-2.d.2- Use technogical developments
C3-Realisation	DT-3.a-Making suitable use of materials, processes, norms and standards	LD-3.a.4- Describe safety and enviroment requirements including laws, guidelines and norms that need to be taken into consideration in a given situation
		LD-3.a.5- Describe social, ethical and society-related aspects that need to be taken into consideration in a given situation
	DT-3.c-Verifying and validating the product, service or process in respect of the requirements imposed	LD-3.c.1- Apply knowledge of USE (usage, safety and environment) aspects in maintenance situations
		LD-3.c.2- Create an adequate plan for implementation.
C4-Control	DT-4.b-Delivering a contribution to control systems and/or maintenance plans, both corrective (monitoring, identifying and optimising) and preventive (anticipating)	LD-4.b.1- Arrange data and/or information and recognise the use of information systems
		LD-4.b.2- Calculate asset reliability
		LD-4.b.3- Enumerate and define maintenance concepts such as corrective, time-based, use-based and condition based
	DT-4.c-The ability to assess the performance of a product, service or process according to quality criteria	LD-4.c.1- Describe how to define performance indicators in general and performance measurements for maintenance assets in particular
		LD-4.c.4- Develop and manage quality assurance processes
		LD-4.d.2- Apply PDCA-cycle
	DT-4.d-The ability to provide feedback in response to changing circumstances and/or performance of a product, service or process	LD-4.d.3- Learn from incidents
		LD-4.d.4- Prioritise between actions to be taken
		LD-4.d.5- Recognise failure behaviour and its characteristics

C5-Management	DT-5.a-Organising a (sub)project: quantifying time and money, assessing and quantifying risks, drawing up project documentation and organising resources (human and material)	LD-5.a.1- Apply management accounting principles
		LD-5.a.3- Create relevant criteria for the choice between proposals for improvement and creates a plan for the implemention of the choice made.
		LD-5.a.5- Describe and apply the model RACI to Identify roles and responsibilities during an organizational change process
	DT-5.b-Monitoring and readjusting activities in terms of time, money, quality, information and organisation	LD-5.b.1- (re-)Design structures and procedures and propose changes in management style and organisational behaviour, in a complex maintenance situation
		LD-5.b.2- Analyse the interrelations between business processes to create proposals for improvements (esp. the design process, the usage and the maintenance process) taking into consideration the possibilty of conflicting intersts of stakeholders
		LD-5.b.4- Define learning behaviour and apply knowledge of change management
		LD-5.b.5- Determine new alternative opportunities and translate these opportunities to a new process or product
	DT-5.d-Supervising employees, encouraging cooperation and the ability to delegate	LD-5.d.1- Describe aspects of human behaviour
	DT-5.e-Communication and cooperation with others in a multicultural, international and/or multidisciplinary environment, and fulfilling the requirements imposed by participation in a labour organisation	LD-5.e.2- Co-operate in multicultural, international and/or multidisciplinary project groups
		LD-5.e.3- Create approval and support for the plan for implementation including data gathering among the direct involved
		LD-5.e.4- Describe methods for assessment in HRM-systems
C6-Advice	DT-6.a-Empathy with the position of the (internal or external) customer	LD-6.a.1- Apply knowlegde on stakeholders to undestand their position
	DT-6.c-In consultation with relevant parties, translating the customer requirements into technically & economically-viable solutions	LD-6.c.1- Apply and encourage multi-party co-operation
		LD-6.c.2-Describe the technological and organisational context
		LD-6.c.3- Explain asset value and risk
		LD-6.c.5- Suggest improvements in the maintenance process and the maintenance planning and control in a given context.
	DT-6.d-The ability to underpin advice with argument, and duly convince the client	LD-6.d.1- Coach a process of choosing between alternative opportunities for the long-term, involving all relevant stakeholders

C7-Research (HZ)	DT-7.a-Research preparation. You are able to make a proposal for (applied) research and set up a research project to solve problems in practical situations.	LD-7.a.1- Formulate a problem statement (which comprises the problem description, research question and objective).
		LD-7.a.2- Conduct a literature review.
		LD-7.a.3- Set up a research project and define it in a research proposal.
	DT-7.b-You are able to conduct research (or have it conducted), as described in the research proposal, monitor progress and quality and make adjustments where necessary.	LD-7.b.1- Collect the required data and process it accordingly to enable a meaningful interpretation.
		LD-7.b.2-Monitor progress and implementation and make adjustments where necessary.
	DT-7.c-Completing research: You are able to interpret data and draw conclusions regarding the research question. Additionally, you are able to evaluate and report results and process.	LD-7.c.1- Ascribe significance to retrieved and processed data.
		LD-7.c.2- Report research results.
	DT-7.d-Researcher's attitude: You act in accordance with the (ethical) code of conduct associated with research.	LD-7.d.1- Adapt your behaviour to the norms, professional ethics, attitude and responsibilities associated with research.
C8-Professionalisation	DT-8.b-Adopting a flexible approach in a range of professional situations	LD-8.b.1- Design and manage organisational change
	DT-8.c-When faced with professional and ethical dilemmas, making sound considerations and taking a decision, taking account of accepted standards and values	LD-8.c.1- Determine the evaluation criteria for a given task and reflect on his/her own and other members qualification elements using the evaluation criteria
		LD-8.c.3- Reflect on the choices made and results from a social and ethical point of view taking into account the presence or absence of a social basis for approval and support
	DT-8.e-The ability to reflect on own actions, thoughts and outcomes	LD-8.e.1- Reflect on his/her own and other group members role, behaviour, contribution and results obtained in a group process
	DT-8.f-Be able to use a range of forms of and tools for communication in order to be able to effectively communicate in Dutch and English.	LD-8.f.1- Defend own explanation and assess the explanations of somebody else.
		LD-8.f.2- Report adequately both orally and in writing on the proposed improvements to the direct involved and other stakeholders

2.2.3 Inrichting opleiding (art 3.3, 3.13, OER HZ)

Inrichting van de opleiding:	
Nationale naam:	Bachelor Technische Bedrijfskunde
International naam:	Bachelor Industrial Engineering Management
Verleende graad:	Bachelor of Science
Studieduur:	4 jaar
Studielast propedeutische fase:	60 EC
Studielast hoofdfase:	180 EC
Variant:	Voltijd
Croho-code:	34421
Locatie:	Vlissingen
Voertaal:	Engels
Datum begin accreditatie:	05-07-2017
Vervaldatum accreditatie:	05-07-2011, uitgesteld tot 03-07-2019
Associate degree:	n.v.t.
Gezamenlijke opleiding:	n.v.t.
Versneld HBO (VWO) traject:	n.v.t.

Opleidingsprogramma

		Blok 1	Blok 2	Blok 3	Blok 4
Year 4	HZ Personality	**Strategich Management** Supply Chain Management, Data Management, Financial Interpersonal Skill		**Final Thesis**	
Year 3		**Internship or Minor**		**Internship or Minor**	
Year 2		**Process Redesign** Organisational Theory, Logistics, Quantitative Methods Operations Management, Theory of Constrains		**Process Design** Innovation, Sustainability, Change Management Marketing, Information Systems, Operations Management	
		English	English	English	English
Year 1		**Production Processes** Introduction Industrial Engineering and Management, Health and Safety at Work Finance	**Maintenance Management** Asset Management, Maintenance Management, Project Management	**Quality Management** Systems Assurance, Quality Systems, Customer Satisfaction, Advice and Analysis Skills Finance	**Continous Improvement** Operations Management, Six Sigma, Lean Thinking
		English	English	English	English

2.2.4 Cursussen propedeutische fase (art 3.5, 3.11 OER HZ)

Weeknummers in onderstaande tabellen zijn volgens jaarkalenderweken.

Blok 1

CU20537	**Titel:** Project: Introduction to Production processes	**EC's: 5,0**	**Mandatory: Yes**	**Language: EN**

Conditions of participation:

Special condition for awarding study points: Actieve deelname (80% aanwezigheid, uitvoeren van opdrachten, student neemt deel aan het project). Presentation of project results is obligatory to pass course.

Brief description of the course content:

The student will be part of a project team which will work on an assignment in order to observe and describe the different aspects of a production/service process within a given company.

Test no.	Form				Content	Weighting factor	Minimum score	Planned test in week	Inspection of work (< 10 working days after receiving grade)	Resit planned in week	Inspection of resits in week
	M	**S**	**A**	**Form**							
1		X		Report	LD-1.e.1 LD-2.b.4 LD-3.a.4 LD-5.e.2 LD-6.c.2 LD-7.d.1 LD-8.e.1	100%	55	Week 44	Week 45	Week 4	Week 5

Toets nr.	Wijze van beoordelen
1	Individueel
Aantal contacturen	82,5 (totaal) - 9 (per lesweek)

CU20538	**Titel:** Introduction to Industrial Engineering and Management	**EC's: 10**	**Mandatory: Yes**	**Language: EN**

Conditions of participation: -

Special condition for awarding study points: Actieve deelname (80% aanwezigheid, uitvoeren van opdrachten).

Brief description of the course content:
This course is an introduction to several aspects of Industrial engineering and management. The focus will be on company processes within an industrial environment. Furthermore the students will work on basic skills he or she will need during the rest of his/her (study) career, such as mathematics, statistics, Excel, health and safety, research and learning to learn.

Test no.	Form				Content	Weighting factor	Minimum score	Planned test in week	Inspection of work (< 10 working days after receiving grade)	Resit planned in week	Inspection of resits in week
	M	**S**	**A**	**Form**							
1		x		Knowledge test	LD-3.a.4	15%	55	Week 44	Week 45	Week 4	Week 5
2		X		Skill test	LD-5.a.1	15%	55	Week 44	Week 45	Week 4	Week 5
3		x		Skill test	LD-1.e.1 LD-2.b.2	20%	55	Week 44	Week 45	Week 4	Week 5
4		X		Report	LD-1.e.1 LD-4.d.2 LD-7.a.2	50%	55	Week 44	Week 45	Week 4	Week 5

Toets nr.	Wijze van beoordelen
1	Individueel
2	Individueel
3	Individueel
4	Individueel
Aantal contacturen	58,5 (totaal) – 7,5 (per lesweek)

Blok 2

CU20539	**Titel:** Project: Maintenance Management	**EC's: 7,5**	**Mandatory: Yes**	**Language: EN**

Conditions of participation:

Special condition for awarding study points: Active participation (80% presence, execution of assignment, students participates in the project assignment).

Brief description of the course content:

The student will get insights in maintenance activities and maintenance management taking into consideration the value of the assets. Students will work in project teams to gather and analyse information within an assigned company. Additionally, the student will develop the following skills:

- Project Management (incl. MS Project)
- Research skills

Test no.	Form				Content	Weighting factor	Minimum score	Planned test in week	Inspection of work (< 10 working days after receiving grade)	Resit planned in week	Inspection of resits in week
	M	**S**	**A**	**Form**							
1		x		Report (group)	LD-1.a.1 LD-1.a.2 LD-1.a.5 LD-1.e.3 LD-2.c.1 LD-2.d.1 LD-4.b.1 LD-4.d.5 LD-5.b.2 LD-6.c.2 LD-7.b.1	30%	55	Week 3	Week 5	Week 15	Week 16
2		X		Report (reflection)	LD-8.e.1	50%	55	Week 3	Week 5	Week 15	Week 16
3		x		Report (project)	LD-7.a.1	20%	55	Week 3	Week 5	Week 15	Week 16

Toets nr.	Wijze van beoordelen
1	Individual
2	Individual
3	Individual
Aantal contacturen	78 (totaal) – 10,5 per lesweek

CU20540	**Titel:** Asset Management	**EC's: 5**	**Mandatory: Yes**	**Language: EN**
Conditions of participation:				
Special condition for awarding study points: Active participation (80% presence, execution of assignment				

Brief description of the course content: The student will learn concepts within Asset Management and Maintenance Management that can apply in a work situation. The student will gain knowledge and insights on several disciplines such as:

- Life Cycle Management
- Total Cost of Ownership
- Basics of TPM (Total Production Maintenance)
- ERP systems for Maintenance

Furthermore the students will learn about physics and continue to increase their mathematical skills.

Test no.	Form				Content	Weighting factor	Minimum score	Planned test in week	Inspection of work (< 10 working days after receiving grade)	Resit planned in week	Inspection of resits in week
	M	**S**	**A**	**Form**							
1		x		Knowledge and skills exam	LD-1.b.4 LD-1.e.4 LD-2.a.1 LD-4.b.3	60%	55	Week 3	Week 5	Week 15	Week 16
2		X		Skills test	LD-3.a.3	40%	55	Week 3	Week 5	Week 15	Week 16

Toets nr.	Wijze van beoordelen
1	Individual
2	Individual
Aantal contacturen	45 (totaal) – 6 per lesweek

CU22491	Title: English for Industrial Engineering & Management	EC's: 2.5	Compulsory: yes	Language: English
Preconditions: N/A				
Special condition for credit allocation: None				
Course summary: This course focuses on: 1. Reading and understanding technical business texts and documents. 2. Producing oral and written summaries. 3. Conducting technical business conversations and/or meetings on topics which relate to the professional field. 4. Writing technical reports. 5. Obtaining the relevant technical business vocabulary.				

Assessment	Format *Oral (O), written (W) or alternative assessment*				Contents	Weight	Minimum score	Planned in week	Exam inspection[1] in week	Re–sit in week	Exam inspection[1] re–sit exam
	O	**W**	**A**	**Format**							
1	x			Interim oral exam – article summary + vocabulary (summative)s	LD-8.f.2 SPB1/2-1a,b,c GSB1/2-5i B1/B2 sufficient vocab on topics pertinent to curriculum	25%	55	43	44	4	**5**
2		x		Final written exam – writing a (technical) report (summative)	LD-8.f.2 SCHB1/2-3a,b,c	45%	55	2	5	15	16
3	X			Final oral exam – conversation and/or meeting (summative)	LD-8.f.2 GSB1/2-2b GSB1/2-3a	30%	55	3	5	15	16
4			X	Digital reading portfolio (including vocabulary) (formative)	LD-8.f.2 LEB1/2-3a,b,c,d; LEB1/2-4a B1/B2 sufficient vocab on topics pertinent to curriculum	Afvink	-	Doorlopend	Doorlopend	Doorlopend	doorlopend

Exam no.	
1	Individual
2	Individual
3	Pairwork / groupwork
4	Individual
Contact hours:	22,5

[1] < 10 working days after publication of mark

Blok 3

CU20541	**Titel:** Project: Quality Management	**EC's: 7,5**	**Mandatory: Yes**	**Language: EN**

Conditions of participation:

Special condition for awarding study points: Active participation (80% presence, execution of assignment, students participates in the project assignment).

Brief description of the course content:
The student will be introduced to several aspects of quality, both in products as in processes. Moreover the students will get familiar with quality norms and standards as well as best practises. They will gain knowledge on quality management principles and approaches, such as quality planning, quality control, quality improvement and quality assurance.

Test no.	Form				Content	Weighting factor	Minimum score	Planned test in week	Inspection of work (< 10 working days after receiving grade)	Resit planned in week	Inspection of resits in week
	M	**S**	**A**	**Form**							
1		x		Portfolio	LD-1.a.6 LD-1.e.2 LD-3.c.2 LD-4.b.1 LD-4.d.2 LD-4.d.4 LD-8.c.3	70%	55	Week 14	Week 16	Week 26	Week 27
2	X			Presentation	LD-3.c.2 LD-8.c.1 LD-8.f.2	30%	55	Week 14	Week 16	Week 26	Week 27

Toets nr.	Wijze van beoordelen
1	Individual
2	Individual
Aantal contacturen	78 (totaal) – 10,5 per lesweek

CU20542	Titel: Systems assurance	EC's: 7,5	Mandatory: Yes	Language: EN
Conditions of participation:				
Special condition for awarding study points: Active participation (80% presence, execution of assignment).				
Brief description of the course content: During this course the student will gain insight on RAMS analysis, the application of statistics on availability and reliability. Additionally, the student will continue to learn about physics and make a start on material science and will continue to work on his / her research skills and finance knowledge.				

Test no.	Form				Content	Weighting factor	Minimum score	Planned test in week	Inspection of work (< 10 working days after receiving grade)	Resit planned in week	Inspection of resits in week
	M	**S**	**A**	**Form**							
1		x		Knowledge and Skills test	LD-1.e.1 LD-4.b.2 LD-4.c.1 LD-4.d.3	35%	5,5	Week 14	Week 16	Week 26	Week 27
2				Knowledge and Skills test	LD-5.a.1	35%	5,5	Week 14	Week 16	Week 26	Week 27
3				Skill test	LD-2.b.2	30%	5,5	Week 14	Week 16	Week 26	Week 27

Toets nr.	Wijze van beoordelen
1	Individual
2	Individual
3	Individual
Aantal contacturen	45 (totaal) – 6 per cursusweek

Blok 4

CU20543	**Titel:** Continuous Improvement	**EC's: 7,5**	**Mandatory**	**Language: EN**

Conditions of participation: *(gebruik hiervoor bij voorkeur de "aanbevolen voorkennis" zoals gepubliceerd in onderwijscatalogus op HZ-Infonet)*

Special condition for awarding study points: Active participation (80% presence, execution of assignment, students participates in the project assignment). *The average grade for both exams needs to be 5.5 minimum to get the study points awarded.*

Brief description of the course content:
Analyse a production process and propose an optimisation for this process at a company. A stakeholders analysis and long-term view on the effects of the optimisation is included in this plan. Students will work in project teams to gather and analyse information within an assigned company, using several analysis methods.
The student will gain knowledge and insights on subjects like:

- **Operational Excellence**
- **Lean**
- **Sig Sigma**
- **TPM**

Test no.	Form				Content	Weighting factor	Minimum score	Planned test in week	Inspection of work (< 10 working days after receiving grade)	Resit planned in week	Inspection of resits in week
	M	**S**	**A**	**Form**						**S**	
1		x		Report	LD-1.a.6 LD-1.b.5 LD-1.d.4 LD-1.e.2 LD-3.c.2 LD-4.c.4 LD-5.a.3 LD-5.b.2 LD-6.c.1 LD-7.a.1 LD-7.b.1	80%	55	Week 25	Week 26	Week 27	Week 35
2	X			Presentation	LD-7.c.2	20%	55	Week 25	Week 26	Week 27	Week 35

Toets nr.	Wijze van beoordelen
1	Individual
2	Individual
Aantal contacturen	76,5 (totaal) – 10,5 per lesweek

CU20544	Material science and production	EC's: 2,5	Mandatory: Yes	Language: EN
Conditions of participation: *Presence of 80% during the* Project: Introduction to Production processes (Course CU20537)				
Special condition for awarding study points: Active participation (80% presence, execution of assignments)				
Brief description of the course content: **The student will learn concepts about material science and production systems and techniques, to gain a greater knowledge on design. Additionally, the student will continue to develop his/her research skills.**				

Test no.	Form				Content	Weighting factor	Minimum score	Planned test in week	Inspection of work (< 10 working days after receiving grade)	Resit planned in week	Inspection of resits in week
	M	**S**	**A**	**Form**						**S**	
1		x		Skills test	LD-2.a.1 LD-2.b.2 LD-2.b.4	80%	55	Week 25	Week 26	Week 27	Week 35
2	x			Presentation	LD-8.e.1	20%	55	Week 25	Week 26	Week 27	Week 35

Toets nr.	Wijze van beoordelen
1	Individual
2	Individual
Aantal contacturen	33 (totaal) – 4,5 per lesweek

CU20545	Titel: HZ Personality	EC's: 1,25	Mandatory	Language: EN
Conditions of participation:				
Special condition for awarding study points:				
Brief description of the course content: Het onderwijsprogramma bevat 2,5 studiepunten vrije compositieruimte per studiejaar. Het is de student toegestaan om VCC-punten te behalen met buitencurriculaire activiteiten, zoals: bestuursactiviteiten, voorlichtings- en promotieactiviteiten, culturele activiteiten, begeleidingsactiviteiten, projectactiviteiten of trainingsactiviteiten. Voor de goedkeuring van niet HZ-brede buitencurriculaire activiteiten is goedkeuring van de opleiding vereist. Voor de inhoudelijke invulling en de daaraan verbonden criteria wordt verwezen naar de Studentenhandleiding HZ Personality, 2017, HZ University of Applied Sciences.				

Test no.	Form				Content	Weighting factor	Minimum score	Planned test in week	Inspection of work (< 10 working days after receiving grade)	Resit planned in week	Inspection of resits in week
	M	S	A	Form							
1			x	Portfolio		100%	5,5	25	26	27	35

Toets nr.	Wijze van beoordelen
1	Individual
Aantal contacturen	1

CU20546	Titel: HZ Personality	EC's: 1,25	Mandatory	Language: EN
Conditions of participation:				
Special condition for awarding study points:				
Brief description of the course content: Het onderwijsprogramma bevat 2,5 studiepunten vrije compositieruimte per studiejaar. Het is de student toegestaan om VCC-punten te behalen met buitencurriculaire activiteiten, zoals: bestuursactiviteiten, voorlichtings- en promotieactiviteiten, culturele activiteiten, begeleidingsactiviteiten, projectactiviteiten of trainingsactiviteiten. Voor de goedkeuring van niet HZ-brede buitencurriculaire activiteiten is goedkeuring van de opleiding vereist. Voor de inhoudelijke invulling en de daaraan verbonden criteria wordt verwezen naar de Studentenhandleiding HZ Personality, 2017, HZ University of Applied Sciences.				

Test no.	Form				Content	Weighting factor	Minimum score	Planned test in week	Inspection of work (< 10 working days after receiving grade)	Resit planned in week	Inspection of resits in week
	M	S	A	Form						M	S
1			x	Portfolio		100%	5,5	25	26	27	35

Toets nr.	Wijze van beoordelen
1	Individual
Aantal contacturen	1

CU22492	**Title:** English for Industrial Engineering & Management	**EC's: 2.5**	**Compulsory: yes**	**Language: English**

Preconditions: Sufficient Level (B2) or pass for CU22491

Special condition for credit allocation: N/A

Course summary:
This course focuses on:

1. Reading and understanding technical business texts and documents.
2. Writing a proposal.
3. Building and expanding relevant technical business vocabulary (portfolio).
4. Giving technical business presentation taking into account all relevant conventions.

Assessment	**Format** *Oral (O), written (W) or alternative (A) assessment*				**Contents**	**Weight**	**Minimum score**	**Planned week**	**Exam inspection week**	**Re–sit week**	**Exam inspection re–sit ex**
	O	**W**	**A**	**Format**							
1		x		Interim oral exam – presenting analysis results (formative)	LD-8.f.2 SPB1/2-3a,b,c	Afvink	-	14	16	25	27
2	x			Final oral exam – presentation of proposal (summative)	LD-8.f.2 SPB1/2-3a,b,c	50%	55	25	27	28	35
3		x		Final written exam – proposal (summative)	LD-8.f.2 SCHB1/2-1 + SCHB1/2-2	50%	55	24	26	28	35
4			x	Digital reading portfolio (including vocabulary) (formative)	LD-8.f.2	Afvink	-	Doorlopend	Doorlopend	Doorlopend	doorlopend

Exam no.	
1	Pairwork/groupwork
2	Individual/Pairwork
3	Individual
4	Individual
Contact hours:	22,5

[2] < 10 working days after publication of mark

2.2.5 Cursussen hoofdfase (art 3.6, 3.11 OER HZ)

Nog niet van toepassing.

2.2.6 Vrije compositiecursussen (art 3.12 OER HZ)
Het onderwijsprogramma bevat 2,5 studiepunten vrije compositieruimte per studiejaar. Dat betekent 10 studiepunten in totaal binnen de opleiding Industrial Engineering & Management. Het is de student toegestaan om VCC-punten te behalen met buitencurriculaire activiteiten, zoals: bestuursactiviteiten, voorlichtings- en promotieactiviteiten, culturele activiteiten, begeleidingsactiviteiten, projectactiviteiten of trainingsactiviteiten. Voor de goedkeuring van niet HZ-brede buitencurriculaire activiteiten is goedkeuring van de opleiding vereist. Voor de inhoudelijke invulling en de daaraan verbonden criteria wordt verwezen naar de *Studentenhandleiding HZ Personality, 2017, HZ University of Applied Sciences*.

2.2.7 Afstudeerrichtingen (art 3.10 OER HZ)
Nog niet van toepassing omdat in cursusjaar 2017-18 alleen het eerste leerjaar wordt verzorgd. Afstudeerrichtingen zijn pas van toepassing vanaf het vierde leerjaar.

2.2.8 Stage (art. 3.9 OER HZ)
Nog niet van toepassing omdat in cursusjaar 2017-18 alleen het eerste leerjaar wordt verzorgd. Stage is pas van toepassing in het derde leerjaar.

2.2.9 Minor (art. 3.8 OER HZ)
Nog niet van toepassing omdat in cursusjaar 2017-18 alleen het eerste leerjaar wordt verzorgd. Minors zijn pas van toepassing vanaf het derde leerjaar.

2.2.10 Deelname internationaal uitwisselingsprogramma (art 4.5 OER HZ)
De opleiding heeft geen internationaal uitwisselingsprogramma.

2.2.11 Afstuderen (art. 3.9 OER)
Nog niet van toepassing omdat in cursusjaar 2017-18 alleen het eerste leerjaar wordt verzorgd. Afstuderen is pas van toepassing vanaf het vierde leerjaar.

2.2.12 Vervallen

2.2.13 Vervallen

2.2.14 Overgangsregeling (art. 6.2 lid 11 OER HZ)
Overgangsregelingen zijn niet van toepassing. In beginsel geldt de 'onmiddellijke werking' van nieuwe handleidingen, gidsen, eisen, etc.

2.3. Studieadvies

2.3.1. Uitwerking voorwaarden inschrijving opleiding na nbsa (art. 8.1, lid 9 OER HZ)

De student van de opleiding Industrial Engineering & Management, die een negatief bindend studieadvies krijgt, wordt definitief uitgeschreven voor deze opleiding en kan zich ook niet meer inschrijven voor deze opleiding aan de HZ.

3.1 Vaststelling

3.1.1 De looptijd van de uitvoeringsregeling is gelijk aan de looptijd van de Onderwijs- en Examenregeling HZ 2017-2018.

3.1.2 Deze uitvoeringsregeling is vastgesteld door het college van bestuur op 21/11/2017.