CvB stukken voor agenda Universiteitsraad

Overlegvergadering d.d. : 28 september 2016
Commissievergadering : OOS
Agendapunt : Continuering Master honoursprogramma's 'Change leaders' en
'Research honours'
Bijgevoegde stukken : Evaluatie masterhonourstrajecten 2013-2016, mei 2016
Honours evaluation report 2015, februari 2016

Betrokken concerndirectie: S&B   paraaf:

Secretaris: Van Keulen   paraaf:

Portefeuillehouder: Brinksma   paraaf:

1. Status agendapunt:

Rol URaad:

x   Ter informatie: Evaluatierapport van Honoursprogramma's op UT
o   Ter advisering
x   Ter instemming: Continuering master honoursporgramma's 'Change leaders'
en 'Research honours'.
o   Anders:

2. Eerder behandeld in:

Naam gremium: UCO
Datum behandeling: 16 juni 2016
Naam agendapunt: Evaluatie van de honourstrajecten
Conclusie toen: De UCO spreekt naar aanleiding van de meta-evaluatie van de
honoursprogramma's haar zorg uit over de kwaliteitsbewaking van de
honoursprogramma's. De UCO adviseert om de Master
honoursprogramma's 'Change Leaders' en 'Research Honours' op te
nemen in het standaard aanbod van het UT excellentie-onderwijs mits
de kwaliteitszorg op orde wordt gebracht.

3. Toelichting/samenvatting:

De Master honoursprogramma's 'Change leaders' en 'Research honours' zijn in 2013 als een
driejarige pilot gestart. Het College van Bestuur heeft het voorgenomen besluit genomen om deze
programma's te continueren. Omdat de Universiteitsraad indertijd instemmingrecht heeft gekregen
inzake de besluitvorming over de voortzetting van deze pilots wordt dit besluit ter instemming
voorgelegd aan de Universiteitsraad. De Universiteitsraad wordt gevraagd in te stemmen met het
collegebesluit om de Master honoursprogramma's 'Change leaders' en 'Research honours' op te
nemen in het standaard aanbod van het UT excellentie-onderwijs.

Ten behoeve van het besluitvormingsproces is een evaluatierapport geschreven dat zich enkel
richt op 'Change leaders' en 'Research honours'. Dit evaluatierapport en een samenvatting
hiervan zijn bijgevoegd.

Naast de evaluatie die alleen ingaat op de Master honoursprogramma's heeft een meta-evaluatie
van de honoursprogramma's plaatsgehad. Ter informatie wordt het evaluatierapport van de brede
evaluatie (Honours evaluation report 2015), welke door het College is vastgesteld, gedeeld met de
Universiteitsraad.

De UT heeft de ambitie dat 10 procent van de studenten in 2020 participeert in excellentieonderwijs. De Honoursprogramma's leveren hiervoor een belangrijke bijdrage. Onlangs zijn de honoursprogramma's van de UT uitgebreid met nieuwe programma's. Deze uitbreiding en groei stelt ook andere eisen aan de organisatie van de programma`s en de kwaliteitszorg. Het College heeft dan ook de opdracht gegeven om de onderwijskwaliteitszorg te versterken, waarbij rekening wordt gehouden met het bijzondere karakter van de Honoursprogramma's. Middels uitvoering van het Programme improvement Plan, dat beschreven wordt in het Honours evaluation report 2015, geeft de Honours Dean hier gevolg aan.

The Master honours programmes 'Research honours' and 'Change leaders' started as a three-year pilot in 2013. In order to facilitate the decision-making process concerning the continuation of these programmes an evaluation report is written that specifically focusses on 'Research Honours' and 'Change leaders'. The Executive Board made the intended decision to take up 'Research Honours' and 'Change Leaders' as regular honours programmes on condition that the quality assurance of the Honours programmes in general will be further improved. The Executive Board also emphasized that the quality assurance has to remain suitable for the honours education. The University council is asked to approve the intended decision of the Executive board.

4. Voorgenomen besluit CvB:

Het College van Bestuur neemt het voorgenomen besluit om de Master honoursprogramma's 'Change Leaders' en 'Research Honours' op te nemen in het standaard aanbod van het UT excellentie-onderwijs, stelt daarbij als voorwaarde dat de kwaliteitszorg van de UT Honoursprogramma's verder wordt versterkt en legt dit besluit ter instemming voor aan de Universiteitsraad.

GRIFFIE URaad: (door griffie UR in te vullen)
Eerder in URaad aan de orde geweest?
- o Nee.
- o Ja, op
  Conclusie toen:

Nadere toelichting: (Voor als presidium/griffier vindt dat één van bovengenoemde punten nadere toelichting behoeft)
....
....

Evaluatie masterhonourstrajecten 2013-2016

Auteur: drs. P. van Adrichem-Rotteveel (Centre of Educational Support/Centre of Expertise in Learning and Teaching) met input van prof. dr. P.W.N. de Weerd-Nederhof, dr. A.M. Dijkstra, drs. D.H. Bennink (voor Research Honours) en prof. dr. C.P.M. Wilderom (voor Change Leaders), drs. M.J. Zeeman en dr. G.A.C. Wagenaar-Bos (beiden Strategie & Beleid)

Achtergrond

De masterhonourstrajecten vinden hun inbedding in het streven van de Universiteit Twente om aan studenten die meer dan gemiddeld getalenteerd en begaafd zijn uitdagende programma's te bieden. Dit streven heeft ondermeer geresulteerd in al langer bestaande trajecten voor VWO+ leerlingen in toppers trajecten en succesvolle bachelorhonourstrajecten. De ontbrekende factor in deze lijn waren de masterhonourstrajecten. Deze dragen mogelijk bij aan een promotietraject of een (top)baan in bedrijf en/of overheid.

Binnen het project Positionering Kwaliteitsverbetering Masterprogramma's (PKM) werd door opleidingsdirecteuren, studenten en docenten van doorgelichte masterprogramma's aangegeven dat behoefte bestond aan universiteitsbrede masterhonourstrajecten op het gebied van leiderschap/ondernemerschap en onderzoeksvaardigheden (zie Eindrapportage PKM, Universiteit Twente, 2013a). Daarnaast droeg een doorlopende leerlijn van honourstrajecten bij aan de accreditatie en audit van de bachelortrajecten door de Sirius-commissie in het kader van de prestatieafspraken met de minister van het Ministerie van Onderwijs, Cultuur en Wetenschap (OCW). Dit alles was de aanleiding om in 2013 een driejarige pilot te starten met drie opleidingsoverstijgende masterhonourstrajecten Change Leaders, Research Honours en Design Honours. De afspraak was om deze pilot na drie jaar te evalueren.

Deze evaluatie beperkt zicht tot de pilot van de twee masterhonourstrajecten Change Leaders en Research Honours. Het uitgangspunt voor de evaluatie is het kader dat is opgesteld door prof. dr. Miko Elwenspoek (dean van de honours-trajecten), in overleg met de afdeling Strategie & Beleid en ter advies is voorgelegd aan de Universitaire Commissie Onderwijs (UCO) (zie Elwenspoek en Wagenaar-Bos, 2015). Dit kader is in de onderstaande tabel uitgewerkt. Het kader is gebaseerd op de standaarden van de Nederlands-Vlaamse Accreditatieorganisatie (NVAO) voor de Beperkte Opleidingsbeoordeling en besproken in de UCO. De begeleiding van de uitvoering van de evaluatie ligt in handen van het Evaluatiecomité en de afdeling Strategie en Beleid.

Tabel 1

Evaluatie-framework voor de masterhonourstrajecten

(1) Beoogde eindkwalificaties	Wat zijn de beoogde eindkwalificaties?
	Hoe staan deze in verhouding tot de visie op excellentie?
(2) Onderwijsleeromgeving (programma)	Wat was het proces om tot de gerealiseerde invulling te komen? Wie zijn betrokken geweest bij het ontwerp van het onderwijs?
	Welke bijdrage levert welke module aan welk leerdoel?
	Wat draagt het programma bij aan de ontwikkeling van de student?
	Wat zijn de selectie criteria en de selectieprocedure?
	Respons van studenten en "afnemers"
(3) Toetsing	Wordt op een valide, betrouwbare en transparante wijze getoetst?
	Borgt de Examencommissie de kwaliteit van de toetsing?
(4) Gerealiseerde eindkwalificaties	Worden de beoogde eindkwalificaties gehaald?
	In hoeverre is het programma discriminerend voor excellentie (d.w.z. is het inderdaad zo dat niet-excellente studenten het niet aankunnen?)
	Hoe verhouden de eindwerken zich tot het excellentie concept?

(Elwenspoek en Wagenaar-Bos, 2015)

(1) Beoogde eindkwalificaties

Wat zijn de beoogde eindkwalificaties?
In de onderstaande tabel zijn de beoogde eindkwalificatie opgenomen van beide honours-trajecten. Bij Research Honours is het *University of Twente PhD-profile* (Twente Graduate School, z.j.) het uitgangspunt voor het organiseren van het leertraject. De deelnemende studenten sluiten met de academic director een leercontract af (Twente Graduate School, 2015a). Hierin formuleren studenten op basis van het PhD-profile hun eigen leerdoelen. In het leercontract is naast een aantal verplichte onderdelen het ook mogelijk om keuze-onderdelen toe te voegen. Dit moet uiteraard wel passen binnen het profiel en de betreffende vakken. Te denken valt aan een workshop "Personal Effectiveness" of "Analytic Storytelling" uit het aanbod voor promovendi en medewerkers van het Centre of Training and Development (CTD). In de intended learning outcomes van Research Honours is te zien dat het traject zich richt op oriëntatie en voorbereiding van de excellente student op een onderzoeksloopbaan. De studenten reflecteren op regelmatige basis in hoeverre zij zich op onderdelen ontwikkeld hebben. Anders dan bij Research Honours wordt bij Change Leaders niet gewerkt met leercontracten.

Tabel 2

Leerdoelen/eindkwalificaties van Research Honours en Change Leaders

Intended learning outcomes Masters' Research Honours	Intended learning outcomes Change Leaders
A student who has successfully participated in the Masters' Research Honours Programme is able to:	A student who has successfully participated in the Masters' Change Leaders Honours Programme is able to:
a. Acquire knowledge and understanding about basic research management skills, communication skills and writing skills for young researchers; b. Understand the role of science in universities and society as a whole; c. Understand and analyze how processes of science are organized; d. Reflect on and communicate about these processes of science and the broader role of researchers in society and their own possibilities to develop these basic research management skills, communication skills and writing skills;	a. Get more knowledge and insights about the latest thinking and empirical evidence on effective leadership and change management and related developments;
e. Identify what basic research management skills, communication skills and writing skills are; f. Analyze their own skills with regard to these areas and; g. Apply these insights so as to help improve their own research management skills, communication skills and writing skills; h. Identify and explain the core theoretical concepts in the field of science and technology communication, with a special focus on the science-society relationship;	b. Continue to be trained in various personal/professional skills that are crucial in one's own contributions to effective leadership/follower ship and change in various social-technical contexts;
i. Analyse the basic processes that explain how different publics deal with technological and scientific information; j. Apply these insights so as to help improve communication practices in the field of science and technology communication, including those related to the student's own research area; k. Evaluate the merit and value of science and technology communication activities	c. Apply one's cognitive and experiential learning (in a&b), and in one's own academic field of expertise in a self-selected project while being coached during that project on the basis of an own, customized plan of personal development that resulted from the two previous Change Leaders' courses.

<u>Hoe staan deze eindkwalificaties in verhouding tot de visie op excellentie?</u>
In de Excellentievisie van de UT (Universiteit Twente, 2013b) wordt gesproken van de T-shaped academic, dat wil zeggen, de ingenieurende academicus die basisvaardigheden opdoet in drie rollen (onderzoeker, ontwerper en organisator, de zogenaamde 3-O's) en zich specialiseert in een van de rollen. De excellentie trajecten van de bachelor zijn gericht op kennismaking van de studenten met alle 3-O rollen. De opleidingsoverstijgende masterhonourstrajecten richten zich expliciet op specialisering (verdieping) in een van de 3-O rollen en op voorsortering op een vervolg traject. Voor Research Honours betekent dit bijvoorbeeld de voorbereiding op een onderzoeksrol in een PhD-traject terwijl voor Change Leaders het traject voorbereidt op een leidinggevende rol binnen instellingen en/of bedrijfsleven. Aansluitend bij de High Tech-Human Touch gedachte zijn de trajecten discipline overstijgend. Niet alleen inhoudelijk leren studenten dat goede onderzoekers vaak die verbinding tussen wetenschap, technologie en samenleving kunnen leggen, maar

ook worden in de masterhonourstrajecten getalenteerde studenten, docenten van zowel technische als mens- en maatschappijwetenschappen bij elkaar gebracht om zo deze verbindingen te stimuleren.

(2) Onderwijsleeromgeving (programma, het personeel en de opleidingsspecifieke voorzieningen)

<u>Wat was het proces om tot de gerealiseerde invulling te komen? Wie zijn betrokken geweest bij het ontwerp van het onderwijs?</u>
Al in een vroeg stadium zijn gesprekken gevoerd door de Honours Dean met de trekkers van de trajecten prof. dr. Celeste Wilderom (Change Leaders) en prof. dr. Petra de Weerd-Nederhof (Research Honours). De pilot werd vanuit CES/CELT begeleid door drs. Nelleke van Adrichem-Rotteveel. In 2012 en 2013 zijn bijeenkomsten gehouden over het ontwerp van de trajecten met studenten van diverse UT-opleidingen, bestuursleden van de Student Union, leden van de honours-studievereniging Ockham, hoogleraren vanuit het Clusterleidersoverleg TGS, opleidingsdirecteuren en onderzoekers/docenten van UT-faculteiten (Weerd-Nederhof, 2014). Voor Change Leaders zijn aanvullende bezoeken afgelegd bij excellentie trajecten van de Universiteit Leiden en de Universiteit Groningen. Voor Research Honours zijn gesprekken gevoerd voor een inhoudelijke bijdrage aan het traject met ondermeer drs. Sabien van Harten (Talen Coördinatie Punt/TCP Language Centre (TCP)) en dr. Rolf Vermeij en Telma Esteves, PhD (EU-office UT), prof. dr. Hans Vossensteyn (Center for Higher Education Policy Studies (CHEPS)) en dr. Anne Dijkstra (Instituut voor lerarenopleiding en professionele docentontwikkeling (ELAN)).

<u>Welke bijdrage levert welke module aan welk leerdoel?</u>
De totale omvang van elk van de trajecten is 15 EC. De trajecten bestaan elk uit een vergelijkbare opzet van drie vakken van 5 EC: een cognitief vak, een skills vak en een projectvak. In de onderstaande tabel staan de vakken van de trajecten.

Tabel 3
Modules van de masterhonourstrajecten

Trajecten	Cognitive part	Experiential Part	Experiential Part
Research Honours	Advanced Science Communication, 5 EC. (201300315)	Research Management and Skills, 5 EC (201400532)	Research Honours Training and Project, 5 EC (201400533)
Change Leaders	MSc Change Leaders and Management (201300278)	MSc Change Leaders: Experiential Skills Training (201400544)	Leadership and Organisational Change (201200032)

De doelstellingen van de vakken zijn gekoppeld aan de eindcompetenties van het

traject. Advanced Science Communication: doelstellingen d,h, i, j, k; Research Management and Skills: doelstellingen a, c, d, e, f, g; Research Honours Training: doelstellingen a,d,e,f,g. Voor Change Leaders dient deze koppeling nog vast gesteld te worden.

<u>Wat draagt het programma bij aan de ontwikkeling van de student?</u>
De trajecten betekenen voor vakinhoudelijk excellente studenten de mogelijkheid om hun excellentie verder te versterken middels onderzoeks- en leiderschapsvaardigheden. Dit kan hun prestaties binnen hun discipline kan versterken. In beide trajecten is coaching opgenomen. Studenten krijgen bij Research Honours 1-op-1 deskundige begeleiding bij hun schrijfopdrachten. Bij de coaching ligt de focus op de specifieke verbetermogelijkheden in relatie tot het doel dat daarbij voor ogen staat, bijvoorbeeld het schrijven van een *research proposal* of *journal article*. De coaching binnen Change Leaders wordt uitgevoerd door UT-staf, die hier speciaal voor getraind worden. De coaching van de studenten is gericht op het behalen van een buitengewoon resultaat in het project van de student, door de individuele bekwaamheden te stimuleren van de studenten die daaraan bijdragen.

Gedurende de pilot zijn enkele studenten geïnterviewd voor Utnieuws en Mytouch, waarbij zij ook aan externen de betekenis van het traject voor hun eigen ontwikkeling gaven. Om een indruk te geven volgt hieronder twee passages uit een interview met Pinak Samal, student van het Research Honours traject, tweede lichting (2014-2015):

> "I chose this track because my future aim, after completing my Masters, is to continue in a career of research and academics. One of the steps in the process would be to undertake a PhD. For my PhD, I am planning to work on the use of stem cells for tissue engineering. I want to understand how we can use these cells to replace damaged organs in the body. The Research Honours programme will help me improving my research related abilities, which I believe will be important when I pursue my PhD, and even thereafter." "I think until now, I have learnt how to analyze my strengths and weakness in research related skills and planning, and possible ways to improve them. Also, I learnt about various aspects of PhD proposal writing."

> Bron: Dennis Moekotte "I want to improve my research skills" University of Twente / 09.03.2015

Naast de coaching is er in beide trajecten ruime aandacht voor reflectieve vaardigheden. Bij Change Leaders reflecteren studenten in de eerste en tweede module na elke avond wat de betekenis ervan is voor hun eigen leiderschapsvaardigheden. Ook maken ze een eigen ontwikkelingsplan waarop ze feedback krijgen, mede ook naar aanleiding van een persoonlijk assessment. Bij het Research Honours traject reflecteren studenten op hun ontwikkelde competenties via een zelfevaluatie.

<u>Wat zijn de selectie criteria en de selectie procedure?</u>
Bij elk traject dienen de studenten voor het selectiegesprek een curriculum vitae, een cijferlijst en een motivatiebrief aan te leveren. Bij Research Honours dient de student daarnaast te zorgen voor een aanbevelingsbrief van een lid van de wetenschappelijke staf, meestal de begeleider. Bij Change Leaders dienen studenten al enige notie te hebben van het project dat zij gedurende het traject willen realiseren. Uit ervaring blijkt dat deze stukken voldoende informatie bieden om de

selectiegesprekken aan te gaan. Een of twee (hoofd-)docenten uit het team voeren met iedere aangemelde student een gesprek van ongeveer 30 tot 60 minuten. Naast motivatie en "track record" is ook haalbaarheid van het traject een belangrijk gespreksonderwerp. Bij twijfel aan de geschiktheid van een kandidaat worden andere collega's uit het honoursteam en/of de Honours Dean geraadpleegd. De selectieprocedure is in de loop van de pilot aangescherpt omdat men nu preciezer weet welk type student geschikt is voor de trajecten.

De studenten worden van het bestaan van de trajecten op de hoogte gebracht door berichten via UT-website, studentenportal, e-mails, flyers en lunchbijeenkomsten (in samenwerking met de dienst Marketing en Communicatie). Daarnaast wordt via de studievereniging van de honours-trajecten Ockham aandacht gevestigd op de trajecten en vraagt de honours dean aan opleidingsdirecteuren (OLD's) om studenten aan te dragen. Studenten met een University Twente Scholarship (UTS) ontvangen standaard een uitnodiging voor een oriënterend gesprek over de honours-trajecten. UTS-studenten zijn overigens niet automatisch toegelaten. In samenwerking met de facultaire internationaliseringscoördinatoren wordt bekeken of het raadzaam is om te starten met het traject. In de afgelopen drie jaar zien we dat de werving meer specifieker is geworden, van een algemene werving binnen de universiteit naar het aandragen van mogelijk geschikte studenten door betrokkenen binnen de opleidingen. Ervaringen van Ockham-studenten bij masteropendagen en medewerkers van de afdeling Marketing en Communicatie bij internationale beurzen wijzen erop dat voor (excellente) potentiële studenten de aanwezigheid van masterhonourstrajecten veelal meeweegt in de keuze voor een UT-master.

Tabel 4
Rendement selectieprocedure Research Honours en Change Leaders

Research Honours	2013	2014	2015
aantal geselecteerde deelnemers	8	10 (excl. 2 TGS award)	14 (excl. 2 TGS award)
aantal afgewezen kandidaten	7	3 (waarvan 1 doorverwezen naar Change Leaders)	4
aantal tussentijds gestopte deelnemers	0	1	1

Change Leaders	2013	2014	2015
aantal geselecteerde deelnemers	19	22	25
aantal afgewezen kandidaten	0	0	1
aantal tussentijds gestopte deelnemers	1	2 (waarvan 1 overstap naar Research Honours, na het 1e vak)	2 (waarvan 1 overstap naar Research Honours, na het 1e vak)

Respons van de studenten

Elk vak binnen het traject is gedurende de pilot minimaal een keer geëvalueerd, om te bezien of bijstelling nodig was. De evaluaties worden uitgevoerd door studentassistenten, werkzaam bij het Honours-bureau, gelieerd aan de honours-vereniging Ockham, onder verantwoordelijkheid van de coördinator van de masterhonourstrajecten. Uit deze vakevaluaties zijn beperkte aanpassingen gekomen, maar structureel is de basis van het traject goed te noemen en zijn studenten tevreden. Daarbovenop is onder zes studenten van Change Leaders in 2015 een meta-evaluatie (Van den Berg en Van Dommelen, 2015) uitgezet. De studenten beschouwen als sterke punten van het traject ondermeer de interdisciplinaire benadering; de interactieve sessies, de groepsgrootte. Als verbeterpunten wordt o.a. gemeld vermindering van het leeswerk, vergroten van de bekendheid binnen de UT van de honours-traject, consequent selecteren. Hoewel dit een impressie is, vanwege het beperkte aantal studenten van de meta-evaluatie, geeft het aan dat op detail niveau verbeteringen mogelijk zijn.

Respons van de "afnemers"

Een deel van de Research Honours studenten stroomt direct door naar een PhD-traject. Zie onderstaande tabel 5. Het traject functioneert hierdoor als een voorsorteer traject naar de PhD-fase. De studenten die met goed gevolg het Research Honours traject afronden kunnen de 15 EC behaalde punten inbrengen in de 30 EC opleidingsverplichting die geldt voor een PhD van de Twente Graduate School.

Tabel 5
Aantal studenten (abs.) dat gestart is met een PhD-traject na afronding Research Honours

	Totaal aantal studenten in Research Honours	Totaal aantal studenten dat na Research Honours een PhD is gaan doen	Waarvan op de UT
2013-2014	8	5	1
2014-2015	11	6	3

(3) Toetsing

Wordt op een valide, betrouwbare en transparante wijze getoetst?
De wijze van toetsing is opgenomen in de "Progression and Award Requirements" (Twente Graduate School, 2015). In dit document is van elke module een toetsmatrijs opgenomen. Hierin staan alle onderdelen van een module vermeld, inclusief het aantal toetsen, het type toetsvorm en de verhouding waarin een onderdeel meeweegt in de totale beoordeling van de module.

Borgt de Examencommissie de kwaliteit van de toetsing?
De honours-trajecten hebben een gemeenschappelijke Examencommissie die toeziet op de kwaliteit van de toetsing. Zie voor de leden https://www.utwente.nl/excellentie/en/organisation/. Bij de start worden de "Progression and Award Requirements" (zie bijvoorbeeld Twente Graduate School, 2015b) naar de Examencommissie gezonden voor goedkeuring. Mochten er studenten zijn die problemen hebben met de toetsing, dan kan deze student zich tot deze Examencommissie wenden. Sinds de start van de honours-trajecten is er 1 student geweest die een vraagstuk met betrekking tot de beoordeling heeft voorgelegd aan deze Examencommissie, dat naar tevredenheid voor alle partijen is opgelost.

(4) Gerealiseerde eindkwalificaties

Worden de beoogde eindkwalificaties gehaald?
De studenten die de trajecten afronden hebben de eindkwalificaties behaald. Zij hebben dat aangetoond met de afrondende toetsing en tussentoetsen die onderdeel uitmaken van de trajecten. In de "Progression and Award requirements" staan per module een toetsschema beschreven met daarin onder andere de vorm en weging van de toetsing. Instrumenten voor toetsing en beoordeling zijn gevarieerd en bestaan bijvoorbeeld uit presentaties, schrijfopdrachten, self assessments en rapportages.

<u>In hoeverre is het programma discriminerend voor excellentie (d.w.z. is het inderdaad zo dat niet-excellente studenten niet aankunnen?</u>
De trajecten zijn additioneel. Dit betekent dat studenten bovenop hun reguliere programma 15 EC doen. Dit is een behoorlijke hoeveelheid tijd. Het gaat dan om de laatste fase van de eenjarige of tweejarige master (of driejarige bij Technical Medicine). Buiten de cognitieve uitdaging, betekenen de trajecten alleen al door de noodzakelijke tijdsinvestering dat deze niet voor iedere student zijn weggelegd: er wordt een groot beroep gedaan op het organisatorisch vermogen van de studenten. Daarnaast is het een uitdaging om een groep te vormen met andere excellente studenten vanuit verschillende disciplines en qua projecten te begeven op niet eerder bewandelde paden. Bij Change Leaders betekent het laatste bijvoorbeeld voor studenten om in hun project een leiderschapsrol op te pakken en zichzelf, met anderen, toe te leiden naar een buitengewoon resultaat.

<u>Hoe verhouden de eindwerken zich tot het excellentie concept?</u>
In de UT-visie zijn excellente studenten "jonge mensen die getalenteerd, gemotiveerd en ondernemend zijn; begaafde studenten die graag buiten gebaande paden treden, over de grenzen van disciplines kijken en manieren zoeken om hun ideeën impact te geven in de samenleving." (Universiteit Twente, 2013b, p.4). De eindwerken, de apotheose en het booklet van de masterhonourstrajecten bieden mogelijkheden voor deze studenten om een aantoonbare stap te zetten. De eindwerken bestaan uit de door de studenten gekozen en vormgegeven projecten, waarin zij worden uitgedaagd om hun grenzen te verleggen omdat het resultaat niet van te voren vaststaat. Voor Change Leaders is dat een *change leaders project* en voor Research Honours is dat een *article* of een *proposal*. Het niveau van de eindwerken bij Research Honours is dat het een publicaarbaar artikel dient te zijn of een indienbaar onderzoeksvoorstel. Een aantal studenten heeft ook daadwerkelijk bij de Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO) of een ander funding agency (veelal succesvol) ingediend. Enkele studenten dingen met hun proposals mee met de TGS award. Hierbij kunnen studenten voor een financiële overbrugging in aanmerking komen naar een promotieplek op de UT. Een voorbeeld van een eindwerk dat in de pilot periode heeft geleid tot een NWO gehonoreerd voorstel: Correctness and Efficiency of Multi-core Craph Algorithms (Vincent Bloemen, begeleider Jacco van der Pol). Een ander groep studenten heeft ook daadwerkelijk het eindwerk weten te publiceren in een journal.

De eindwerken worden in een apotheose gepresenteerd. De organisatie hiervan is in handen van de studenten, die de resultaten en het geleerde in het traject aan elkaar en aan andere geïnteresseerden presenteren. Een reflectie op het traject en de eindwerken wordt opgenomen in een booklet. Deze zijn van de afgelopen jaren te downloaden van het UT-intranet (zie https://www.utwente.nl/excellentie/en/intranet/booklet.pdf).

Conclusie en aanbevelingen

De conclusie is dat de masterhonourstrajecten Change Leaders en Research Honours een waardevolle aanvulling zijn op het UT-masteronderwijs. De trajecten dragen bij aan de verdere ontwikkeling van de in hoge mate getalenteerde studenten van alle UT-masterprogramma's. De eerste ervaringen wijzen erop dat de trajecten de deelnemende studenten een meerwaarde kunnen geven aan het begin van hun werkende loopbaan, in het bedrijfsleven/instellingen of onderzoek. Als sterke punten van de trajecten komen verder uit deze evaluatie naar voren: de inhoud en opzet; de werving en selectieprocedure van de studenten; de samenwerking met andere onderdelen van de UT-organisatie (diensten, faculteiten, wetenschappelijke staf etc.) om de trajecten tot stand te brengen en het gebruik van een netwerk van organisaties en bedrijven (in het bijzonder geldt dat voor Change Leaders). Aandachtspunten, gebaseerd op persoonlijke communicatie met betrokkenen, zijn voor de komende tijd met name: het volgen van afgestudeerden met een honourskwalificatie en het uitbouwen van de Excellentie Community. De aanbeveling is dan ook om deze trajecten te continueren en daarbij genoemde aandachtspunten in acht te nemen.

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Honours@UT: evaluation and 2016&beyond

Evaluation report including Programme improvement plan for UT honours programmes, based on a critical self reflection and evaluation among students and teachers.

Honours Dean in cooperation with CELT and Strategy & Policy. February 2016.

Summary of evaluation results

The Bachelor's honours programme has a total study workload of 30 EC and consists of five tracks: tree already consisting (Science, Design, Mathematics) and two will be added in 2016 (Philosophy and Processes of Change). The Master's honours programme has a total study workload of 15 EC and consists of the tracks 'Change Leaders in Research, Engineering and Management' and 'Research Management & Science Communication' and will be extended with the track 'Design honours'. The number of students participating in the honours programmes is increasing. The amount of honours students a degree programme delivers differs in between degree programmes and is not in proportion with their size.

The programme set-up ensures an interdisciplinary learning environment which enhances cooperation and communication in between students. The group sizes are small in modules so intensive coaching is possible. In addition to the interdisciplinarity of the programmes, the honours programmes focus on development of academic competences. The programmes broaden or deepen the knowledge of the T-shaped professionals and students become experienced in dealing with concepts op science, design, and managements (in Dutch summarized with the '3O's').
Teaching staff is academically qualified and teachers are well accessible. Nevertheless because of a high work load among teaching staff at the UT in general, the availability of teaching staff might become a problem.

Students are selected for the honours programmes in order to create a specific community of honours students, to have highly motivated students who are are committed to successfully complete the programme. In general students are satisfied with the admission procedure. The honours programmes discriminate by workload and the programmes contain discriminating elements. The teachers' survey suggests however that the selection process should better distinguish excellent students from regular students.

The quality of each module is evaluated. In general the outcomes of the module evaluations were positive. The intended learning outcomes reflect the academic standards expected from the honours students and the content of the modules correspond with the learning objectives of the modules. However, the final qualifications of the honours programmes are not clearly distinguishable from final qualifications of regular degree programmes. Besides the final qualifications are not clear to all teachers in all programmes. It is recommended to reconsider the final qualifications of the honours programmes in order to distinguish the honours programme from regular degree programmes.

Assessment policy and procedures are not formalized yet. Assessment policy has to be suitable for the honours programme. It should be discussed what the right abstraction level of the assessment criteria is in order to encourage student-driven learning and in order to maintain a balance between freedom and quality control.

Introduction

The UT has a Bachelor's honours programme since 2006, and a Master's honours programme since 2012. All programmes are developed to either broaden or deepen the knowledge of the T-shaped professionals and designed with the 3 O`s of the UT in mind. The Master's programme has been

started as a pilot, while the Bachelor's programme exists for a long time and the last evaluation was 8 years ago. To ensure quality control, comparable to that of regular degree programs, an evaluation was performed in 2015. This report describes the main results, recommendations and especially steps and measures for improvements for the Bachelor's and Master's programme as a whole. Most recommendations relate to the entire programme instead of the separate entities.

Evaluation procedure

An evaluation committee has been installed at the beginning of 2015. The committee has approved the evaluation framework. The evaluation consists of a critical self-reflection, an evaluation among students, teachers and management, and a work conference. The Honours Dean hereby reports an overview to the evaluation committee based on these evaluations, answering the questions in the evaluation framework. Subsequently this report will be sent to the executive board.

Evaluation framework

The evaluation framework *Meta-evaluatie honours* was set up in line with NVAO standards for *Beperkte Opleidings Beoordeling*, discussed with the UCO, approved by the Rector Magnificus in December 2014 and approved by the evaluation committee in 2015. The evaluation framework is written in Appendix VII.

Critical self-reflection

The Honours Dean has written a critical self-reflection in April 2015 containing programme objectives, selection, quality control, assessment, and programme contents. The contents list of the Critical Self-reflection can be found in Appendix I.

Evaluation among students, teachers, and management: Evaluation report

A report has been written based on findings from three surveys among students, teachers and management, and about twenty panel and individual interviews. The respondents relate to the three Bachelor honours tracks and the two Master honours tracks.[1] The findings have been grouped according to the four NVAO standards and ideas for further development, based on the findings, have been discussed in a meeting with students and staff on September 30th 2015. The major findings of this evaluation survey report are shown in Appendix II.

For the two Master honours tracks, this evaluation also served to decide about continuation of the programmes, which are so far started as a pilot. For this reason a separate evaluation describes the Master pilots related to this question.

Conclusions and recommendations

The conclusions and recommendations in this report are ordered according to the four standards of the evaluation framework and are based on the critical reflection, the evaluation report, and the meeting. The four standards are:

1. Intended learning outcomes
2. Educational environment
3. Assessment policy
4. Achieved final qualifications

Standard 1: Intended learning outcomes and relation of learning outcomes to Vision Excellence@UT

- What are the intended learning outcomes?

- How do the intended learning outcomes relate to UT vision on excellence?

1.1 What are the intended learning outcomes?
The intended learning outcomes as described in the Critical Reflection[4] are summarized below.

Bachelor final qualifications and intended learning outcomes:
Science & Design
The detailed final qualifications are written in Appendix III.
A student who successfully completed the Bachelor honours tracks Science or the Bachelor honours track Design has a strong foundation to work in a multi- & interdisciplinary context and has knowledge about the fields of science, technology & society. Students can analyze complex situations, define knowledge boundaries and are able to draw conclusions about their own field of study thereby working with varying perspectives from different academic disciplines.
The intended learning outcomes have not been developed for the separate tracks yet because students were able to choose and combine modules from the different tracks till 2015

MATH
A student who successfully completed the Bachelor honours track MATH has learned challenging and fundamental mathematics that is generally not provided in the regular curricula. Intended learning outcomes for the separate modules in the MATH track are available. The final qualifications for the MATH track as a whole and the intended learning outcomes are currently in development.

The tracks Philosophy and Processes of change had not started yet by the time this evaluation was performed.

Master final qualifications and intended learning outcomes
Research Honours
The detailed final qualifications are written in Appendix III.
A student who successfully completed the Master honours track Research Honours is able to understand, analyze, merit and communicate about science in universities and society. They can analyze and develop their competencies in basic research management skills, communication skills and writing skills. They can identify and explain the core theoretical concepts in the field of science and technology communication, in particular with a focus on the science-society relationship; apply these insights to communicate and evaluate the merit and value of science and technology communication activities.

Change Leaders
Central in this programme is personal training to handle change processes. Learning objectives are dependent on personality and are formulated individually. The central objective is to understand how the student should behave in situations where both the behavior of the individual as well as that of others needs to change in order to effectively initiate and implement change.

1.2 How do the intended learning outcomes relate to UT vision on excellence?
Learning in the honours tracks broadens the horizon of the honours students, thereby developing the upper part (breadth) of the T of the T-shaped professional.[4] A very strong point of the programmes, according to both teachers and students, is the inter-/multidisciplinarity.[1] The honours programmes are interdisciplinary with students participating from all the UT degree programmes from various disciplines. The subjects studied concern aspects of multiple disciplines. This ensures that all honours students get to know and to work with various disciplines.[4] The contents of the honours programmes

focus on performing the 3 O`s of science, engineering and management, on reflection and on the interplay between science, engineering and management as can be read in the paragraph *2.4* . Teachers conclude that the value of the honours programmes aligns with UT strategy. High Tech Human Touch is considered of high importance to the honours programmes.[1]

Conclusions and recommendations standard 1: Intended learning outcomes and relation of learning outcomes to Vision Excellence@UT

UT vision on excellence and relation to the intended learning outcomes
The intended learning outcomes relate clearly to UT-strategy and to UT-vision on excellence; High Tech Human Touch, inter-/multidisciplinary, both mentioned as strong points by both teachers and students.

Intended learning outcomes
Based on the interim report by the evaluators it can be concluded that the intended learning outcomes are not clear to all teachers from all programmes. Also, the question has risen whether the final qualifications are minimal requirements or indicatiors of optional requirements.[1]
The intended learning outcomes are clear for the Bachelor honours track Science, the Bachelor honours track Design and the Master honours track Research honours. Communication about these intended learning outcomes to (new) teachers should be improved. Learning outcomes for the track MATH are currently under development. The Master honours track Change Leaders does not yet have documented final qualifications. However, teachers have a clear picture on this and could easily put the final qualifications on paper. It is advisable to have a set of intended learning outcomes for this honours track as well. Personal development goals will still relate to the development of Change Leaders which can probably be defined in higher order learning outcomes.

The intended learning outcomes are of academic standard. The final qualifications of the honours programmes are not clearly distinguishable from regular programmes, according to both the Honours Dean and the evaluators. Therefore the intended learning outcomes of the honours tracks do by itself not clearly discriminate between regular and excellent students, as concluded by the Honours Dean.

It is recommended to reconsider the final qualifications of the honours programmes in order to distinguish the honours programme from regular programmes. The final qualifications of the honours programmes should be defined in such a way that they only can be obtained by excellent students; for example by adapting the levels of comprehension, in line with the higher order of thinking and comprehension that excellent students reach. The teaching staff of the honours programmes and some external experts should be involved in this process.

The question can be raised how specific the intended learning outcomes of the honours tracks should be. Two opposite scenarios for the Bachelor's programmes are: whether all programmes should have clearly defined intended learning outcomes, track-specific and highly specified or whether a higher-order set of generic intended learning outcomes for all Bachelor's programmes is preferred. Obviously the strong points like HTHT, 3 O`s and multidisciplinarity can form a basis in this respect.
The evaluation report contains several suggestions for reformulation of intended learning outcomes. The Master honours track Research Honours uses a combination of minimal requirements plus optional requirements.
It is important to note that a number of interviewee are a strong supporter of final qualifications that specify individual student growth opportunities (as exemplified by Aalborg University). Final qualifications of Research Honours are true goals, and include non-predefined outcomes, to be individually defined.[1]

Standard 2: Educational environment

- What is the process by which the programme is realized and who were involved?
- What is the relationship between the learning outcomes and the programme contents?
- What does the programme contribute to the development of the student?
- What is the admission procedure of the honours programme and which selection criteria are applied?

2.1 Development of honours programmes and persons involved

The Bachelor's honours programme started in 2006 with the Science track and later on, because of increase in demand, was extended with the Design track. The mathematics excellence programme was founded in 2010 in order to challenge talented students of the technical degree programmes.[4] This MATH track was incorporated in the honours programme in study year 2012-2013. The Master's honours programme, with the track Research and the track Change leaders, started in 2012.
The Honours office, consisting of Henk Procee, Fokko Jan Dijksterhuis, Miko Elwenspoek and two students Emiel Kappert and Martijn Vulto, had a crucial role in developing the honours programme. From the start, the honours programme is supported by an advisory board (Celeste Wilderom, Hans Hilgenkamp, Peter van der Hoogt, Enrico Marani, Pascal Wilhelm and students Dorien Lutgendorf (IO, WB) and Maaike Groen (INF, EDMM).[4]
Contact in between staff of the Master's programme is structured per 2012/13 by having a discussion platform consisting of the Honours Dean and the primary teaching staff of the three Master honours tracks (Celeste Wilderom (MSc Change Leaders), Anne Dijkstra (MSc Research Honours) and Wouter Eggink (MSc Design Honours).[4] The Bachelor's programme will have a discussion platform in 2016 that consists of Kim Schildkamp, Maarten Krol, Celeste Wilderom, Rene Munnik and a teacher of the MATH track.

2.2 Curriculum of the honours programmes (BSc & MSc)

Both the Bachelor's and the Master's honours programme are extra-curricular. The Bachelor's honours programme has a total study workload of 30 EC and consists of five tracks: Science, Design, Mathematics, Philosophy and Processes of Change. The Philosophy and Processes of Change tracks will start in 2016. Students who are involved in the Science, Design, or MATH track could do a single track or compose their own honours programme based on the modules of these tracks provided that the whole programme is 30 EC. Switching by students in between the Bachelor honours tracks was possible till 2015. Nowadays switching is only allowed once, namely after the first two modules. This policy changed because switching might harm community building in a track and because the modules of most tracks are interwoven and a comprehensive construction of knowledge is created by following the whole track. Switching neither will be possible in the Philosophy track or the Processes of Change track.

The Master's honours programme has a total study workload of 15 EC and consists of the tracks 'Change Leaders in Research, Engineering and Management' and 'Research Management & Science Communication' and will be extended with the track 'Design honours'. It is not possible that students switch in between these tracks.

According to thhe dashboard of the students' survey, appendix II, the modules are not well connected. On the other hand, students highly value the possibility of switching between tracks. While this might be at the expense to which the programme forms an integrated whole.

The content of the Bachelor tracks that already exist is as follows:
a)   Modules of the Science track:

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I.   Great Scientists (10 ECTS);
II.   Philosophy of Science (5 ECTS);
III. Individual Project (10 ECTS);
IV.   Science Synthesis (5ECTS).
b) Modules of the Design track:
I.   Great Designs (10 ECTS);
II.   Instructional Design Project and Design project (5 ECTS);
III. Design Project (10 ECTS);
IV.   Design Synthesis (5 ECTS).
c) Modules of the MATH track:
I.   Linear Algebra And Coding Theory (5 EC);
II.   Finding vs. Verifying (5 EC);
III. Symmetries (5 EC);
IV.   Signals with Information (5 EC);
V.   Complex Networks (5 EC);
VI.   Dynamic Systems (5 EC).[5]

The Master track 'Change Leaders in Research, Engineering and Management' has cognitive and experimental elements. Knowledge about management regarding processes of change is combined with training and coaching in leadership skills.[4]

The theory in the Master track 'Research Management & Science Communication' is about Advanced Science Communication. Students are trained in research management and academic skills. Much attention is given to scientific writing by writing a publication or research proposal.[4]

During each quartile of the Master track Design honours, students follow the steps of a design cycle, starting with an ill-formulated objective and finishing with a detailed design plan. This plan is executed during the master thesis.[4]

2.3 Relationship between learning outcomes and programme contents

The relationship between the final qualifications and the Bachelor's honours programme is explained in appendix IV. A similar overview regarding the final qualifications of the Master's programme is not provided in the critical reflection.

In the survey, teachers, students, and alumni were asked whether the the contents of the honours programme clearly allow meeting its objectives. The survey results are hard to interpret due to a broad range of responses but, on average, tend to be positive. In addition the teachers' results indicate that the operationalization between Learning Objectives of a module into teaching and learning in that module is quite all right.[2, 3]

2.4 Characteristics of the honours programmes

Main characteristics of the honours programmes are reflection on and contributing to science, engineering and management. The Bachelor's honours programme has a broader orientation toward multidisciplinary domains while the Master's honours programme results in an in-depth understanding of a scientific domain and mastery of a selection of skills.[4]

Further development of academic skills and attitude is an elementary component of the honours programmes. That is why students need to study a broad range of scientific literature and scientific designs, interpret and compile the information, and present their results by writing research proposals and papers or by delivering a speech. The honours programmes challenge students to work out their own career path and independently formulate their research proposals or identify their engineering objective and create a corresponding design.[4]

Honours students are very motivated to excel in their specific scientific field and share a critical and curious attitude. One of the reasons for selection is to create a community. A reasonable large part of the students are active in a community (HV Ockham). Unfortunately, participants of the MATH track are less active in this.

The group sizes are small in modules so intensive coaching is possible. The student and alumni survey, which asked whether the group size is good in order to meet the objectives of the honours programme, indicates that the group size is all right. Lecture hours are limited and most teaching time is invested in tutoring of individual students or groups. Group work and individual assignment are types of education needed to acquire final qualifications like having a multidisciplinary focus and being able to perform research independently.[4] In addition to interactive lectures and individual projects, teachers use other kinds of teaching activities as well like group discussions, assignments, or presentations.[2]

The programme set-up ensures an interdisciplinary learning environment enhancing cooperation and communication. All modules are interdisciplinary (except the MATH tack) because students work in mixed groups in which several scientific domains are represented. The study objective requires an interdisciplinary approach. The teaching staff's background also contributes to a rich multidisciplinary community. The survey results confirm that the honours programmes are interdisciplinary and, in varying degree, contribute to cooperating and communication. A remarkable result of the student survey, as can be seen in the dashboard students' survey, is that designing is quite a small component of the whole honours programmes (score of 2.17 on a 4-point rating scale) while 37 percent of the respondents participate in the Design track.[1]

2.5 Teaching staff

Availability of sufficient teaching staff is a point of attention. The Honours Dean states in the critical reflection that teaching staff is less available during evening hours while the honours education is mainly scheduled in this time period. He also received signals that work load of the teaching staff is increasing due to other activities at the UT.[4] When teachers have to cut in their activities because work load becomes too high, the way they prioritize their contribution to the honours programme in comparison with research and involvement in the degree programme may determine their decision.

The time teachers invest in contact with students is good according the teachers survey. This survey also shows that teaching staff is easily accessible to students, and that most teachers are sufficiently knowledgeable about individual students in their module. [2, 3]

The number of teachers that are involved in all honours tracks that currently are delivered is 29. Teaching staff is academically qualified: 41 percent of the staff consists of professors. Most teaching staff, as is shown in figure 2, is part of the Faculty Behavioural, Management and Social Sciences (BMS) and the faculty of Electrical Engineering, Mathematics and Computer Science (EWI). Appendix V provides detailed information about the teaching staff.

Faculty	BMS	CTW	EWI	TNW	Remaining
Percentage of teaching staff	38%	10%	38%	7%	7%

Figure 2: distribution of teaching staff over faculties

2.6 Admission and intake

The best 5-10% of the student body per degree programme is actively approached to participate in the honours programme. Recruitment by degree programmes results in an increase in intake. It is possible for students to enroll in the honours programme without a recommendation of the degree programme.

The selection procedure for the Bachelor's honours programme was reformalized in August 2015. As described in the Education Regulations, admission to the Bachelor's honours programme is obtained if the student meets the following requirements:
a) is in possession of a valid enrolment at the UT,
b) is in his first or second year of a Bachelor's programme at the UT,
c) is talented, motivated and enterprising;
d) has great course results and a nominal study progress;
e) likes to go off the beaten track, looks beyond the borders of disciplines and looks for ways to ensure that his ideas have an impact on society;
f) has the potential to complete the Honours Programme within the set period.[5]

All candidates write a letter of application for participation in the honours programme in which they explain their motivation. The Honours Dean can demand an interview and decides whether the request is granted.[5] In the starting years of the honours programme, every student had an interview before permission was granted. Because this procedure was time intensive, nowadays students are only invited for an interview when their motivation letter raises questions. The consequence is that the drop-out seems to be higher in comparison with the previous situation in which every student had an interview.[4]

The Master's honours programme aims to attract talented master students. Besides excellent master students, also PhD students can be accepted to participate in two Master honours tracks: 'Change Leaders in Research, Engineering and Management' and 'Research Management & Science Communication'.[4] Specific selection criteria of the Master's honours programme are not described in the critical reflection or the honours evaluation.

Teaching staff was asked whether the admission procedure of the honours programme is good and to which extent they think that every student in their module is excellent. Both results suggest that the selection procedure has to be improved. Striking a balance between enrolment volume and the quality of enrolment is said to be relevant to honours programmes. Specifically, there's a certain risk that Change Leaders may have a lower excellence level of enrolment. A well-documented, rigorous selection standard was suggested as a means of assuring quality. Also, the quality and selection of the candidate coaches is reported to require additional attention. Some teachers as well as some students do criticize other students for a lack of motivation and in several cases for participating only for utilitarian reasons ('CV hunting').

2.7 Number of enrolling students
Expansion of the honours programmes with new tracks resulted in 2012 in an increasing intake of students. In 2012 the Bachelor's honours programme was extended with the Design track and the MATH track was incorporated in the honours programme in 2014. In 2012 the intake more than doubled and in 2014 the intake increased with 19 percent.

The amount of honours students a degree programme delivers differs in between degree programmes and is not in proportion with their size. . Degree programmes with a high average intake are the University College ATLAS, Advanced Technology, and Biomedical Technology. In contrary the intake from Communication science, Health sciences, Industrial design, and Technical computer science on average is low. Appendix VI, which contains detailed information about the number of enrolling students, shows that student intake per degree programme fluctuates very much (due to the small numbers) over the years.[4]

There are no official targets about the maximum number of students that will be admitted. The maximum capacity per module is about 25 student. Most teachers prefer a group size of 15 till 20 student per module.

2.8 Feasibility of the programme

A drop-out rate of maximally 20 percent per cohort is accepted. Selection by means of the programme itself is an inherent feature of the prestigious honours programme. Only talented students can accomplish the honours programme.[4] According to the accepted drop-out rate, the percentage of students that quit the programme (Science track and Design track) fluctuates around the target rate of 20 percent.

The honours programmes are extra-curricular which implies that all students who participate in the honours programme must be able to obtain 30 EC during the Bachelor or 15 EC during the Master in addition to their regular degree programme.

The Honours Dean categorizes reasons why students drop-out in three groups:
- Required study time is too demanding.
- Honours programme does not meet students' expectations. Students had other ideas about how the programme would be like.
- Level of programme is too demanding. Especially the individual project is a bottle neck because some students are not capable to come up with own ideas or bringing an idea into an end product.[4]

Students were asked whether they can combine the honours programme well with the degree programme. The survey results show that this is not a problem. The same question was asked to teaching staff and these results correspond with the student and alumni survey.[2, 3]

Conclusions and recommendations standard 2: Educational environment

Teaching staff

Tracks are developed and added to the honours programme since 2006. A wide variety of people contributed to these programmes. Teaching staff represent the UT faculties BMS, CTW, EWI, and TNW. Teaching staff is an important and valuable resource of the honours programmes.

The student-staff ratio is all right. The groups size is maximally 25 students and the students' survey indicated that teachers are well accessible.

The evaluation shows that sufficient teaching staff is available in order to provide high quality education. Nevertheless because of a high work load among teaching staff at the UT in general this availability might become a problem. Therefore the position of teachers who contribute to the honours programme should be protected.

Support staff honours programmes

The number of students participating in the honours programmes is increasing and the honours programmes will be expanded with two new tracks in 2016. Several issues, such as quality assurance, are formalized in August 2015 which requires a better documentation of procedures and information. Nevertheless the size of the support staff is still the same. It is recommended to recruit a programme coordinator, as was suggested and welcomed on the evaluation meeting on September 30st.

Relationship between the final qualifications and the honours programme
The content of the modules correspond with the learning objectives of the modules. The relationship between the final qualifications and the Bachelor's honours programme is specified. Although the Master's honours programme has a clear profile and the tracks are an integrated whole, the way in which the final qualifications are implemented has to be described.

Didactic concept
A strong feature of the honours programmes is the multidisciplinary approach. Students work in mixed groups in which several scientific domains are represented and the study objective requires an interdisciplinary approach. The honours programmes also focus on the development of academic skills like scientific writing.

Student intake
The number of students participating in an honours programme is increasing. The amount of honours students a degree programme delivers differs in between degree programmes and is not in proportion with their size.

In general the visibility of the honours programmes has to be improved. Programme coordinators, programme directors or tutors who are committed to the honours programme tend to recruit more students to sign up for an honours programme. This support of degree programmes should be more structured so talented students are actively informed about the possibility to participate in an honours programme. Having an Honours Council, with Deans as members, might foster this process. It is advised to consider which aspects might reduce the willingness of degree programmes to recruit students and how to deal with this.

Selection of students and feasibility of the programme
The admission procedure of the Bachelor's honours programme is well explained in the Education Regulation. The Master's honours programme does not have an education regulation containing admission regulations. In general students are satisfied with the admission procedure. However, the dashboard teachers' survey addresses the need to improve selection of students and the teachers' survey suggests that a better distinction can be made between excellent students and regular students by means of selection.

Ways to improve admission are demanding an interview for every student, asking the degree programme to write a (brief pre-structured) letter of recommendation, and/or by reconsidering the selection criteria. Conditional admission, in the sense that students can stay in the honours programme under the condition that the study progress of their degree programme remains good, can also be considered. Part of such policy is to define study results that are minimally accepted.

The evaluations among students and staff do not indicate that the feasibility of the programmes is a point of concern.

Standard 3: Assessment policy
- Are assessments valid, reliable, and transparent?
- Does the Examination Board assure the quality of assessments?

3.1 Quality assurance
A number of standard procedures and already existing boards were formalized in August 2015. The Dean of the faculty of Electrical Engineering, Mathematics and Computer Science authorized the

Honours Dean to appoint an Honours Examination Board and an Education Committee and the Dean of EEMCS ratified the Education Regulation of the Bachelor's honours programme.[4]

The education of the honours programme is managed and organized by the module coordinators under supervision of the Honours Dean. The Honours Dean is accountable to the Executive Board about all matters regarding the honours programme. The Honours Council, the supervisory council of the UT excellence programmes, oversees the quality of education of the entire honours programme and evaluates the quality every year. Their mandate is not explicitly described in a document. Every four years a programme evaluation takes place and the findings of this evaluation will be discussed with the UT Executive Board.[5, 6]

The task of the Education Committee is to annually assess how the Education Regulations of the honours programme is executed, and to offer solicited and unsolicited advice on the Education Regulations of the honours programme and about all affairs concerning the education of the honours programme.[5] Survey and focus group results, which are written by the evaluation committee, are shared with the Education Committee.

Teaching staff was asked how they regard the quality assurance of the honours programme. According to the dashboard teachers' survey this item is scored moderately.[2]

The quality of each module is monitored. Module evaluations conducted by student-assistants was the main quality assurance method till August 2015. Evaluations were discussed with teaching staff and in the Education Committee. In general these outcomes were positive. Based on the outcome the Honours Dean can decide to take measures and improve the honours programmes. The evaluation system is extended per September 2015 by introducing an evaluation committee with student-assistants and an educational professional. In evaluating the quality of the honours programmes the committee uses a mixed methods design. Each module will be evaluated using a students' survey. The survey includes items concerning the module, like learning objectives, didactics, and assignment. The whole programme will be evaluated by using the survey results and by means of a focus group interview with students. Interviews will focus on strengths and weaknesses of the overall honours programme, and the extent to which the objectives of the honours programme are met.[4] Evaluation results are presented to the Honours Dean, the Education Board, and the Honours Council.

3.2 Honours Examination Board and Assessment
The Examination Board is responsible for the quality of testing and the attained learning outcomes. The Examination Board of the honours programme exists since 2013 and is officially confirmed in August 2015. The composition of the board members in accordance with the Dutch Higher Education and Scientific Research Act (WHW section 7.12a).[4]
The Honours Examination Board has to assure a proper module assessment. Rules and regulations are not described yet which means regulations and guidelines for module assessments are not formalised either.

Module assessment is based on the presence and participation during meetings and the produced results like presentations, research proposals, scientific designs, papers, and books. During a module students get feedback on their work and have the possibility to make improvements. In case of an insufficient performance during a module, the module coordinator can require an additional assignment during the module. The level of the supplied work is, at the very least, marked sufficient to good (comparable with a 7.5 of regular degree programmes in which grades are given). The final assessment of the module is expressed in either a 'pass' or a 'fail'. Because a resit of a module is not possible and the study progress has to be nominal, failing a module means that the Honours

certificate cannot be obtained anymore. Successfully completed modules are listed on the diploma supplement.[4, 5]

Another task of the Honours Examination Board is to award students the honours certificate. The entire honours programme is extra curricular and the module assessment does not intervene with regular degree programme. However awarding a student with the honours title was a point of discussion between the Examination Board of a regular degree programme and the Honours Examination Board. A student of a pilot Master's honours programme completed the honours programme but had moderate results in the regular degree programme. Because the honours title was mentioned on the diploma itself at that time, the Examination Board of the regular degree programme questioned whether the student deserved the title. Nowadays students get an honours certificate and the completed modules are listed on the diploma supplement. This example points out that clarity about the position of the Honours Examination Board in comparison with Examination Boards of degree programmes is an issue that needs to be addressed.[4]

Students and alumni were asked whether testing and assessment in the honours programme has a good match with the learning objectives. On average the respondents neither agreed nor disagreed with this statement.[3] In addition to this, quality of testing was one of the items students value least positive as the dashboard of the students' survey shows.[1]

Conclusions and recommendations standard 3: Assessments policy

Quality control and Government

The quality of each module is monitored by means of module evaluations. The outcomes are discussed with teaching staff and presented to the Education Committee. In general the outcomes of the module evaluations were positive. The evaluation system is extended per September 2015 by introducing an evaluation committee with student-assistants and an educational professional.

The mandate of the Honours Council is not described on paper which creates uncertainty about its responsibility. It is proposed to change the composition of the Honours Council and to make each faculty Dean a member of the Honours Council. This will be a logical step to take because it strengthens the bond in between the faculties and the honours programmes.

Another aspect to have in mind is that, according the WHW, education is provided by and research is done in faculties. Because the honours programmes are not a degree programme the WHW does not apply. Nevertheless this principle can be complied to a certain extent by providing the Deans with a shared responsibility of the honours programme. This also results in a shared ownership of the honours programme.

Examination Board and Assessment

Disagreement existed between the Honours Examination Board and an Examination Board of a Degree Programme about granting the honours award to a student. Acknowledgement of the position and task of the Honours Examination board is important.

The Honours Examination Board has to assure a proper module assessment. Rules and regulations are not described yet which means regulations and guidelines for module assessments are not formalised as well. Formulating assessment criteria for different kinds of final products supports standardisation of assessments. Clear and uniform assessment policy and procedures will also help teachers who might hesitate to grade a student with a 'fail' because this implies that a student cannot obtain the honours certificate anymore. Nevertheless the assessment policy has to be suitable for the honours programmes. It should be discussed what the right abstraction level of the assessment criteria is in order to encourage student-driven learning and to prevent an attitude in

which students learn to the test and focus on the results, and in order to maintain a balance between freedom and quality control that suits an excellence programme.

A number of standard procedures, like assessment procedures, and already existing boards, such as the Education board and the Examination board, were formalized in August 2015. The Master's honours programme does not have Education regulations yet. This document should be developed in order to secure students' rights and to have official assessment regulations, which also includes pass and fail criteria. In parallel with developing the Master's Education regulation an Examination Board for the Master's honours programme has to be established.

Standard 4: Achieved final qualifications / learning outcomes
- Are the intended learning outcomes achieved?
- Does the programme discriminate for excellence (and are non-excellent students unable to finish the program)?
- How do the final reports relate to the concept of excellence?

Are the intended learning outcomes achieved?
The self assessment report[4] gives a clear overview how the intended learning outcomes are addressed in the Bachelor tracks Science & Design. Every final qualification, except the entrepreneurial attitude, is explicitly addressed in the programme, as can be concluded from Appendix III.
In the teacher survey, several aspects concerning the final qualifications have been addressed. Teachers mostly assess students individually. The questions concerning the final qualifications (connections between final qualifications and learning objectives of modules are good / final qualifications are being reached / operationalization of final qualifications into teaching & learning of its consulting modules is good / testing and assessment of all modules combined adequately reflects programs' final qualifications) all support the conclusion that the final qualifications are reached. However, since final qualifications are not clear to all teachers, it is hard to draw conclusions.

Students are allowed to switch between Bachelor honours tracks till recently. The question has been raised in the evaluation report whether it is feasible to reach the intended learning outcomes when switching is possible.[1] On the honours evaluation conference of September 30th this question was discussed. A short selection from the conference report *"Early selection of students is difficult because it is a hard choice for students to make. Would changing the first two modules to general subjects be an option? Interim ILOs per module could be an option. This discussion led to a major/minor-like idea for honours: students choosing a single track with the possibility of 1 or two modules from another track. Freedom for self-development of students was mentioned as important."* [7] The question concerning switching was mainly discussed by staff because some students are interested in switching in between tracks. Reaching final qualifications to a sufficient level may be only reached when a complete track is followed. If this appears to be the case, switching should be considered from this view point as well.

Does the programme discriminate for excellence (and are non-excellent students unable to finish the program)?
The programme firstly discriminates by workload, independently from the level of the programme, as explained in paragraph *2.8 Feasibility of the programme*. The programmes contain discriminating elements, as described in the self-assessment report[4], for example the individual projects in the Science track (BSc) and Research Honours (MSc), Science synthesis in the Science track requiring high level integration of information and conceptual thinking, the multidisciplinary Design project, mathematical challenges or confrontation with students' own behavior (MSc Change leaders). In

several modules students are challenged to design their own goals, also not suitable for all regular students.

On the other hand the teachers' survey mentions that teachers are not all convinced that every student in an honours programme is excellent. "Teachers see admission and excellence of students as an issue." [1] Interestingly, most students pass the programme and when the perception of the teachers (not all students are excellent) is aligned with this fact it could be concluded that also non-excellent students are able to pass the programe. This seems mainly due to the fact that teachers are reluctant to issue a fail for a module. The drop-out ratio has been higher in the lastt few years. Directors of degree programmes are asked whether the students are honours-worthy before issuing the honours certificate.

Conclusions and recommendations standard 4: Achieved learning outcomes

Are the intended learning outcomes achieved?
The intended learning outcomes are reached, although it should be noted that they are not clear to all teachers in all programmes. Final qualifications are explicitly addressed in the Bachelor's programme.

Final qualifications should be reformulated. This relates to (1) the question whether there should be uniform high-level qualifications for all Bachelor's programmes, accompanied by some track-specific qualifications, and (2) to the difficulty of formulating final qualifications that are specific for excellent students. It cannot be concluded directly whether the final qualifications are reached, but this relates to the questions how the final qualifications should be framed and how well defined the final qualifications should be for an excellence program. It is advisable to discuss this topic with the University College Twente, ATLAS, to retain the balance between freedom and control in excellent teaching to excellent students.

Switching between Bachelor tracks may have influenced the final qualifications and also the depth that could be reached within a certain track. Switching is not possible anymore since 2016.

Does the programme discriminate for excellence (and are non-excellent students unable to finish the program)?
The honours programmes have a strong selection, beforehand and by the high additional workload. It does not clearly discriminate, based on intended learning outcomes and teachers have the impression that not all students in the programme are excellent. Thereby it is suggested that also non-excellent student are able to finish the programme.

The programmes contain several complex discriminating elements, combined with a final check by the Honours Dean at the end of the programme, this makes it an excellent programme for (excellent) students because it offers as many students as possible the education they need to remain challenged.

It is worthwhile to either improve selection or better visualize honours-worthiness. A more clear distinction in the intended learning outcomes, as well as in the selection procedure may enhance this and possibly also raise the level of the program.

How do the final reports relate to the concept of excellence?
The self-assessment report [4] gives a clear description of this relation. In every module students write final reports either deepening but mostly broadening; great scientist, great designs, synthesizing knowledge. The honours tracks are interdisciplinary and focus on performing the 3 O`s of science, engineering and management. The final reports, written by students, cover the whole honours

programmes, thereby having an interdisciplinary character and requiring that students, to a certain extent, possess competences related to science, engineering and management.

The MATH track forms an exception, since the end reports mainly contain complex mathematical challenges (SUMS). It is hard to draw conclusions about the Master's programme in this respect.

Programme improvement Plan (PiP)

The programme improvement plan connects concrete suggestions for improvement to the conclusions and recommendations that are described in this report. The evaluation committee is asked to take these suggestions into consideration and is invited to comment on the improvement plan and to come up with alternative plans.

Standard 1: Intended learning outcomes and relation of learning outcomes to Vision Excellence@UT

Intended learning outcomes and final qualifications are a point of concern since they are not clear for all programmes and do not clearly discriminate for excellence. In the current wording it is unclear if the final qualifications are minimal or optional requirements, not specified for the tracks and not all modules have clear learning objectives. The Honours Dean and track coordinators will look into this and reformulate the final qualifications and the intended learning outcomes, while keeping the strong points (HTHT, multidisciplinary), in order to more clearly discriminate them with the degree programs, clarify the criteria for individually formulated FQ's, and clarify the minimum FQ's,

Standard 2: Educational environment

- Reconsider policy regarding switching in between tracks; in fact this has been done already and switching is only possible once, namely after the first two modules.
- Active involvement of degree programmes in recruitment of new honours students by involving Faculty Deans.
- Demand an interview for every applicant. Discuss with degree programmes how they can be involved in the admission procedure to advice whether a student is capable to do the honours programme.
- Recruit a programme coordinator
- Teaching staff: contributing to honours education should be rewarded. It is an option to investigate this in cooperation with the CEE, in relation to the rewarding of teaching excellence which is currently in development.

Standard 3: Assessments policy

- Change the composition of the Honours Council by having all faculty Deans, the Dean of ATLAS, and the director of the pre-university college as members. Describe the task of the Honours Council in a convenant.
- Describe Education regulations for the Master's honours programme.
- Formalize the Examination Board for Master's honours programme.
- Describe widely applicable assessment criteria for different kinds of final products. Module assessments should be able to determine whether a produced result has the right level that corresponds with the quality that is expected of an excellent student.
- An internal quality control system, like the UT has for the minor (Validation and Accreditation Committee (VAC)) may be useful either at the level of the modules, or at the level of complete honours tracks at a high level of abstraction for the Intended Learning Outcomes. Teachers have an important role in assuring an excellent level of the honours programmes.

- Teachers and external experts are asked to work on a quality control system, including intended learning outcomes, that maintain a balance between freedom and quality control that suits an excellence programme.
- Encourage teachers to issue a "fail" and help them in this process by formulating clear rules when a "fail" should be issued.

Standard 4: Achieved final qualifications / learning outcomes
- By reformulating the final qualifications and the intended learning outcomes, it should become easier to determine whether a student is excellent. Like for standard 3, teachers and external experts will be asked to look into this.

References

1. Honours Evaluation Interim Report, Hans van den Berg and Rianne van Dommelen, September 2015
2. Honours Evaluation Teacher Survey, Hans van den Berg and Rianne van Dommelen, 28 September 2015
3. Honours Evaluation Students/Alumni Survey, Hans van den Berg and Rianne van Dommelen, 28 September 2015
4. Zelfstudierapport Honours Programma Universiteit Twente, Miko Elwenspoek, mei-oktober 2015
5. Education Regulations Honours Programme, University of Twente, 1 September 2015
6. Convenant Governance Honours Programme, University of Twente, 19 August 2015
7. Honours evaluation report of the September 30 2015 conference, Hans van den Berg and Rianne van Dommelen, 23 October 2015

Appendices

Appendix I
(Contents of) Critical Self-reflection

Contents:
1. Doelstellingen op programma niveau
2. Programma
3. Uitvoering
4. Selectie
5. Beoordeling & toetsing
6. Alumni
7. Instroom en rendement
8. Kwaliteitszorg
    a. Organisatie
    b. Resultaten
9. Van doestelling tot implementatie
10. Implementatieproces
11. Problemen

Appendices Critical Self-reflection:
1. Docenten betrokken bij het honoursprogramma
2. Instroom in het bachelor honoursprogramma
3. Didactiek van een aantal modulen
4. Kwaliteitszorg
5. Geplande acties en acties in uitvoering naar aanleiding van de evaluatie

Honours evaluation interim report; Dr. Hans van der Berg, Rianne van Dommelen

HONOURS   EVALUATION – DASHBOARD STUDENTS' SURVEY

B-Science   42%
B-Design   37%
B-Math   9%
M-Research 6%
M-Change L 7%

N= 92 → 31%
17 September 2015

Alumni   60%
Studying   35%

Strong
- Inter-/multi-disciplinarity
- Collaboration

Key improvement areas (ranked)
1. Communication
2. Organisation / planning
3. Insufficiently challenging
4. Too many students lack motivation

item	item text abbreviation	avg.
10.2	Widely known	2.70
20.1/21.1	Well connected modules	2.89
20.2/21.2	Contact between teachers	2.90
7.5	Testing matches objectives	3.00
18.1	Integrated programme	3.00
22.3/23.3	Quality of testing	3.14
22.6/23.6	Clear assignments	3.16
19.2	Management discusses complaints	3.18
19.3	Personal circumstances	3.25
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7.1	Awareness of objectives	3.75
7.3	Objectives have clear value	3.81
8.1	Group size	3.07 (mid=good)
16.1	Be part of community	3.90
15.1	Good investment	3.98
11.1	Familiar with admission procedure	4.11
15.2	Combination with regular programme	4.17

37%: B-Design

HONOURS EVALUATION – DASHBOARD TEACHERS' SURVEY

B-Science 41%
B-Design 35%
B-Math 24%
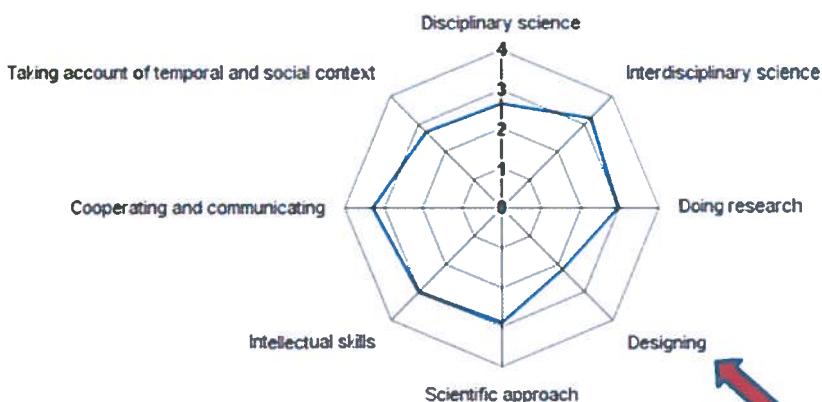M-Research 6%
M-Change L 6%

N= 17 → 59%
17 September 2015

Strong
- Interdisciplinarity
- Challenging & broadening

Key improvement areas (ranked)
1. Selection / assessment
2. Overlap with major, increased by TOM
3. Unclear final qualifications

item	item text abbreviated	avg.
11.1	Every student in HP is excellent	2.43
8.4	Admission procedure	2.64
29.1	Quality assurance of whole programme	2.92
8.1	Provision of information	2.93
29.3	Quality assurance procedures	3.00
8.2	HP widely known at UT	3.07
13.1	Be part of community	3.07
29.2	Quality assurance individual modules	3.08
15.5	Modules are well connected	3.21
12.2	Combination with regular programme	3.23
-------	------------------------	
5.3	Value of HP aligns with UT strategy	3.80
17.4	Amount of contact time is good	3.86
5.2	Objectives have clear value	3.87
6.1	Group size	3.27
28.2	Programme challenges students	3.92
17.2	Adequate amount of time for HP	3.93
21.1	Distribution lecture types	4.00
21.2	Distribution individual/group work	4.00
24.1	Students get ample room for own ideas	4.00
5.6	Individually assessing students	4.07
17.3	Students contact me easily	4.14
24.3	My HP matches academic development	4.14
24.2	Students get enough freedom choice	4.21
29.4	Implementing improvements of teaching	4.33
17.1	Accessible for students	4.36

'HP' = Honours Programme

Highlights from interviews
1. Different perception of 'challenging'
2. Different perceptions of key improvement areas
3. Similar perception about 'Design' (Meijers) [both samples not too small]
4. Similar perception of excellence in student population
5. Students perceive less widely known
6. Students see integration of programme as an issue
7. Teachers see admission and excellence of students as an issue
8. Teachers rate their interest in student learning very high

Appendix III

Final qualifications

Bachelor final qualifications / intended learning outcomes Science & Design

A student who successfully complete the Bachelor Honours programme Science / Design:
a) is able to combine technical and social sciences (High Tech – Human Touch);
b) is educated in the skills of an academic engineer: research, design and organization;
c) has an entrepreneurial attitude, respecting mankind and planet;
d) Is able to apply knowledge in a multidisciplinary context;
e) Is able to analyze complex technological, scientific and/or social situations and use this to identify the main causes of the problem, gather the required information, draw up an action plan and schedule the implementation of the action plan;
f) is able to define the boundaries of technological and scientific knowledge of a specific field and to determine the next steps of the research and/or the development;
g) has a strong and broad foundation to work in a multidisciplinary team;
h) Is able to work independently on a scientific or technological problem;
i) Is able to gather information from academic literature, with or without the help of automatic search methods;
j) has command of analytical skills to describe the technological and social consequences of recent developments in their own field of study;
k) is able to draw conclusions about their own field of study from the point of view of a different academic discipline with a broad perspective;
l) has command of communication skills in order to be able to share scientific, technological and/or social work with colleagues and non-specialists in the field, both in speaking and in writing.

Intended learning outcomes Master programme Research Honours

A student who has successfully participated in the Master Programme Research Honours is able to:
a. Acquire knowledge and understanding about basic research management skills, communication skills and writing skills for young researchers;
b. Understand the role of science in universities and society as a whole;
c. Understand and analyse how processes of science are organized;
d. Reflect on and communicate about these processes of science and the broader role of researchers in society and their own possibilities to develop these basic research management skills, communication skills and writing skills;
e. Identify what basic research management skills, communication skills and writing skills are;
f. Analyze their own skills with regard to these areas and;
g. Apply these insights so as to help improve their own research management skills, communication skills and writing skills;
h. Identify and explain the core theoretical concepts in the field of science and technology communication, with a special focus on the science-society relationship;
i. Analyse the basic processes that explain how different publics deal with technological and scientific information;
j. Apply these insights so as to help improve communication practices in the field of science and technology communication, including those related to the student's own research area;
k. Evaluate the merit and value of science and technology communication activities.

Appendix IV

Implementation of Final Qualifications

	Final Qualifications	Implementation
a.	is able to combine technical and social sciences (High Tech – Human Touch);	Interdisciplinaty character of programme. Students of different study domains work together in groups. Study objectives demand an interdisciplinary approach.
b.	is educated in the skills of an academic engineer: research, design and organization;	Each Master's Honours Programme mainly focusses on one of the three skills (research, design, organization). Study of authentic literature is done in the bachelor Honours modules 'great scientists' and 'great designs'.
c.	has an entrepreneurial attitude, respecting mankind and planet;	Taking human rights and interests and protection of the planet in consideration is one of the main elements in the module 'great designs'. Entrepreneurial attitude is implicitly valued.
d.	can apply knowledge in a multidisciplinary context;	Fundamental part of every module.
e.	is able to analyze complex technological, scientific and/or social situations and use this to identify the main causes of the problem, gather the required information, draw up an action plan and schedule the implementation of the action plan;	Fundamental part of every module.
f.	is able to define the boundaries of technological and scientific knowledge of a specific field and to determine the next steps of the research and/or the development;	The modules 'individual project', 'design project', and 'design synthesis' discuss the boundaries of scientific and technological knowledge.
g.	has a strong and broad foundation to work in a multidisciplinary team;	As part of the module 'Manhattan Project' multidisciplinary teams are created.
h.	is able to work independently on a scientific or technological problem;	During the individual project students work individually on a scientific or technological problem.
i.	is able to gather information from academic literature, with or without the help of automatic search methods;	Finding the right information and being sensitive to the reliability of sources is important in every module.
j.	has command of analytical skills to describe the technological and social consequences of recent developments in their own field of study;	This skill is developed during the modules 'great scientists', 'great designs', 'individual project', and 'design project'.
k.	is able to draw conclusions about their own field of study from the point of view of a different academic discipline with a broad perspective;	This skill is explicitly developed during the modules 'design synthesis' and 'science synthesis'.

I.	has command of communication skills in order to be able to share scientific, technological and/or social work with colleagues and non-specialists in the field, both in speaking and in writing.	Because of the group composition students learn to explain disciplinary knowledge on the right level to students who are not familiar with a certain scientific domain.

Appendix V

Teaching staff honours programmes

Achernaam	Voornaam	programma	Faculteit	module
Adrichem, van	Nelleke	Master	CES	research
Alers	Janneke	Bachelor	TNW	Individual Project
Boon, M.	Mieke	Bachelor	BMS	Philosophy of Science
Broersma, H.J.	Hajo	Bachelor	EWI	Individual Project
Damme, R.M.J. van	Ruud	Bachelor	EWI	Symmetries
Dijk, N.M. van	Nico	Bachelor	EWI	Complex networks
Dijksterhuis, F.J.	Fokko Jan	Bachelor	BMS	Great Scientists
Dijkstra	Anne	Master	BMS	reserach
Elwenspoek, M.C.	Miko	Bachelor	EWI	Manhattan Project
Evers, V.	Vanessa	Bachelor	EWI	Synthesis Design
Gils, S.A. van	Stephan	Bachelor	EWI	Dynamic Systems
Graaf, M. de	Maurits	Bachelor	EWI	Complex Networks
Hoekstra, A.Y.	Arjen	Bachelor	CTW	Flood Safety Netherlands
Homminga, J.J.	Jasper	Bachelor	CTW	Multidisciplinary project
Koster, G.	Gertjan	Bachelor	TNW	Multidisciplinary project
Krol, M.S.	Maarten	Bachelor	CTW	Flood Safety Netherlands
Manthey, B.	Bodo	Bachelor	EWI	Finding vs Veryfying
Meij, J. van der	Jan	Bachelor	BMS	Instructional Design Project
Meinsma, G.	Gjerrit	Bachelor	EWI	Signals with information
Molder, H.F.M. te	Hedwig	Bachelor	BMS	Multidisciplinary project, Research Master
Karreman	Daphne	Bachelor	EWI	Synthese design
Polderman, J.W.	Jan Willem	Bachelor	EWI	Linear Algebra and Coding Theory
Poortman, C.L.	Cindy	Bachelor	LOKETVO	Individual Project
Schildkamp	Kim	Bachelor	LOKETVO	Individual Project

Verbeek, P.P.C.C.	Peter-Paul	Bachelor	BMS	Synthesis Design
Versteeg, W.B.	Wytske	Bachelor	BMS	Multidisciplinary project
Visscher - Voerman, J.I.A.	Irene	Bachelor	CES	Instructional Design Project
Weerd-Nederhof	Petra	Master	BMS	research
Wilderom	Cheleste	Master	BMS	Change Leaders

Appendix VI

Student intake in Bachelor's Honours Programme

bachelor	2015	2014	2013	2012	2011	2010	2009	2008b	2008a	2007
ATLAS	5	2	-	-	-	-	-	-	-	-
AT	16	9	7	4	5	0	0	0	0	3
BMT	4	2	2	4	6	7	1	0	0	0
BIT	0	1	1	1	0	0	0	0	0	0
CIT	3	2	1	4	0	0	0	0	1	0
CW	0	1	1	2	0	0	0	0	0	0
CREATE	6	1	4	2	0	0	-	-	-	-
EE	6	1	4	3	0	3	0	0	0	0
EPA/BK	1	3	5	5	2	0	1	3	4	2
GW	0	1	1	0	0	1	0	0	0	1
IO	0	4	0	0	1	0	0	0	0	0
IBA/BSK	13	9	5	6	0	5	0	1	0	0
PSY	7	10	2	3	4	0	3	4	2	1
ST	4	2	0	3	1	1	1	2	0	0
TBK	2	2	2	1	0	0	0	0	1	1
TG	4	2	2	0	3	3	1	2	1	0
TI	0	1	1	1	0	0	0	0	1	1
TN	1	2	1	4	1	2	0	0	0	4
TW	0	3	0	5	0	1	0	1	2	1
WB	6	1	3	0	0	1	1	0	1	1
OWK	-	-	-	2	0	0	0	0	0	0
TOTAAL	71	62	52	51	24	24	15	13	12	11
AFGEHAAKT	(8)	8	9	5	5	2	8	2	1	3

Meta-Evaluatie honoursprogramma
Kader, april 2015

Inleiding

Er zijn de laatste jaren enkele nieuwe excellentie programma`s ontwikkeld aan de UT, naast de programma`s die al jaren lopen. In 2013 zijn deze programma`s weergegeven in de nota Excellentie@UT. De BSc programma`s zijn gevalideerd door Sirius t.b.v. de prestatie-afspraken. Om kwaliteitsborging op niveau te waarborgen en de kwaliteit transparant en duidelijk zichtbaar te maken is een regelmatige evaluatie op programma niveau van belang. In het voorjaar van 2015 vindt een evaluatie van zowel de bachelor als de master programma`s plaats.

De kern van de evaluatie wordt gevormd door de belangrijkste elementen in de UT-visie op excellentie. In de nota Excellentie@UT staat het volgende over de visie van de UT op excellentie:
"Excellente studenten zijn jonge mensen die getalenteerd, gemotiveerd én ondernemend zijn; begaafde studenten die graag buiten gebaande paden treden, over de grenzen van disciplines kijken en manieren zoeken om hun ideeën impact te geven in de samenleving. Deze studenten wil de UT meer uitdagingen en studiepaden bieden. "

"In de bachelorfase wordt de academische basis gelegd voor de verdere opleidingscarrière van de student. Hier wordt kennis van de discipline of het domein opgedaan en worden basisvaardigheden in alle drie de rollen van een ingenieurend academicus ontwikkeld. We gebruiken het model van de 'T-shaped academic': een diep conceptueel begrip van discipline of domein, gecombineerd met voldoende breedte om deze kennis te operationaliseren en vertalen naar andere domeinen. "

"Het excellentieaanbod in de bachelor grijpt vooral aan op de individuele vorming van deze T-shape. De basis van de T-shape is in elk curriculum aanwezig. Excellente studenten worden gestimuleerd daarbovenop extra uitdaging te zoeken in de breedte (de liggende balk van de T), of zowel in de breedte als in de diepte."

"De verbredende – extracurriculaire – excellentieprogramma's kennen een lange geschiedenis aan de UT en kunnen zowel interdisciplinair als disciplinair zijn. Studenten die gedurende het eerste studiejaar bijzonder succesvol zijn, worden gestimuleerd om een keuze te maken uit het aanbod van honoursonderwijs. "

De bedoeling van de evaluatie is nu om na te gaan of dat wat we hebben gerealiseerd in het honoursprogramma datgene is dat we beoogd hebben. De evaluatie is opgezet volgens de standaarden die de NVAO hanteert bij opleidingsvisitatie.

De meta-evaluatie Aspecten:

Beoogde eindkwalificaties
- Wat zijn de beoogde eindkwalificaties?
- Hoe staan deze in verhouding tot de visie op excellentie?

Onderwijsleeromgeving (programma, het personeel en de opleidingsspecifieke voorzieningen)
- Wat was het proces om tot de gerealiseerde invulling te komen? Wie zijn betrokken geweest bij het ontwerp van het onderwijs?
- Welke bijdrage levert welke module aan welk leerdoel?
- Wat draagt het programma bij aan de ontwikkeling van de student?
- Wat zijn de selectie criteria en de selectie procedure?
- Respons van de studenten
- Respons van de "afnemers" (wie zijn dat?)

Toetsing

- Wordt op een valide, betrouwbare en transparante wijze getoetst?
- Borgt de examencommissie de kwaliteit van de toetsen?

Gerealiseerde eindkwalificaties
- Worden de beoogde eindkwalificaties behaald?
- In hoeverre is het programma discriminerend voor excellentie? (d.w.z. is het inderdaad zo dat niet-excellente studenten het niet aankunnen?)
- Hoe verhouden de eindwerken zich tot het excellentie concept?

Proces/commissie:
De excellentie council formuleert de kwaliteitseisen voor de excellentieprogramma's en bewaakt de samenhang tussen deze programma's. In de excellentie council zitten Miko Elwenspoek (voorzitter), Jennifer Herek, Mieke Boon, Stephan van Gils, Petra de Weerd-Nederhof, Ariana Need (voorzitter examencommissie), Pieter Boerman, Maura Dantuma (student lid).
De examencommissie is verantwoordelijk voor de kwaliteit van de programma`s. De council stelt een evaluatiecommissie in bestaande uit leden uit het council en externe leden. Deze commissie zal bestaan uit Miko Elwenspoek, Nelleke van Adrichem, Jennifer Herek, Maura Dantuma, Ben Betlem, Stefan Kuhlmann en Mark Bentum.
Elwenspoek en van Adrichem bereiden een rapport voor dat door de commissie besproken wordt. Elwenspoek zal naar aanleiding van die bespreking een definitief rapport maken, dat naar goedkeuring voorgelegd wordt aan het college van bestuur.
Informatie over alle programma's is te vinden op http://www.utwente.nl/excellentie/en/