

BODY OF KNOWLEDGE & SKILLS

Een Body of Knowledge & Skills (BoKS) is een overzicht van kennis en vaardigheden die in een opleiding aan bod komen. Deze helpen studenten zicht te ontwikkelen tot startende hbo-professional. De hier beschreven BoKS-componenten zijn richtinggevend, ze bieden de opleidingen voldoende ruimte om zich onderling te profileren. De opleidingen ondersteunen en toetsen de studenten bij het verwerven van de noodzakelijke eindkwalificaties op bachelor-niveau.

De BoKS is beschreven met behulp van drie variabelen, die het mogelijk maken om belangrijke kennis- en vaardigheidsgebieden te identificeren die relatief houdbaar en actueel zijn en waarin niveaus kunnen worden onderscheiden.

Deze hulpvariabelen zijn:

1. de **basics**: de elementaire kennis, onderzoekvaardigheden, (interdisciplinaire) praktijkvaardigheden en attitude die gelden voor alle afgestudeerden binnen het Creative Technologies-domein;
2. de **visions**: de belangrijkste theorieën en methoden vanuit beroepspraktijk en wetenschap die voortbouwen op de basics;
3. de **trends**: actuele en toekomstgerichte ontwikkelingen, bewegingen in beroepspraktijk, wetenschap en maatschappij (omgevingsbewustzijn). Kennis van en oog voor deze trends heeft als doel studenten te stimuleren om bij te blijven over ontwikkelingen op hun vakgebied en zo 'een leven lang leren' in praktijk te kunnen brengen.

Een BoKS is geen statisch gegeven. In het domein van Creative Technologies gaan de ontwikkelingen snel, waardoor er veranderingen kunnen optreden binnen de relevante kennisgebieden. Juist met behulp van de visions en trends kan een hogeschool of opleiding keuzes maken en zich daardoor profileren. Landelijke competenties kunnen gekoppeld worden aan de BoKS, waarbij de BoKS-componenten bijdragen aan een bepaalde competentie (of competentieniveau) en specifieke handelingsbekwaamheid. Binnen kaders kan elke opleiding dit afzonderlijk invullen, waardoor differentiatie tussen opleidingen mogelijk is.

Creative Media & Game Technologies

Instellingen die de opleiding aanbieden:

- HKU University of the Arts Utrecht
- NHTV University of Applied Science, Breda
- Hogeschool Rotterdam
- Saxion, Enschede

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BASICS	NIVEAU	VISIONS	TRENDS
1 Technische kennis en analyse	3	Audio technology	Adaptive (audio) systems
		Hardware	Audio networking
		Interfacing	Coding
		Modelling/Texturing	Creative development
		Programming and scripting	Functional programming
		Scripting	Open source
		System design	Reversed engineering
		Tooling	Sensors
		Spatial audio design	Wearables
2 Ontwerpen en prototypen	3	Agile development	3D printing
		Creative problem solving	Fablab
		Mock ups	Maker culture
		Paper prototyping	
		Rapid prototyping	
		Sonic design	
		Sound art	
		Sound representation (live and studio)	
3 Testen en implementeren	3	Co-design	Living labs
		Debugging	Real time metrics
		Metrics	Sonic interaction labs
		Programming languages	
		System architecture	
		Usability testing	

BASICS	NIVEAU	VISIONS	TRENDS
4 Onderzoek en analyse	2	Action research	A-B testing
		Artistic research	Big data
		Design research	Bio feedback
		Desk research	Online surveys
		History of design	Open data
		Humanities	
		Observation in context	
		Psychology	
		Qualitative research	
		Sociology	
		Technical research	
User research			
5 Conceptualiseren	2	Articulation of demand	Multidisciplinary teamwork
		Benchmarking	Working cross sectoral
		Design thinking	
		Generating creative ideas	
		Trendwatching	
		User-centered design	
6 Vormgeven	2	Concept art	Augmented reality
		Sound and music production	Motion capture/Technical art
		Synthesis	Multi speaker
		Visualizing	Realtime analysis
		Business models	Ubiquitous media
7 Ondernemende houding	3	Business planning	International business
		Network economy	Open innovation
		New business development	
		Trendwatching	
8 Ondernemende vaardigheden	2	Creative Commons	Bartering
		Fundraising	Crowdfunding
		IP (intellectual property)	
		Networking	
		Portfolio	

BASICS	NIVEAU	VISIONS	TRENDS
		Social media	
9 Projectmatig werken	2	Adaptive working	Agile development
		Distributed design processes	
		Leadership	
		Project management	
		SCRUM	
		Work culture	
		Working iterative	
10. Communicatie	3	Briefing-Debriefing	Fast and many
		Community	Multi channel
		NDA (non-disclosure agreement)	Transparency
		Online workbench	
		Portfolio	
		Positioning	
		Presentation/Pitching	
11 Leren en reflecterend vermogen	3	Authenticity	Critical reflection
		Positioning	Excellence
		Postmortem/lessons learned	Life long learning
		Profiling	Personal development
		Reflective practitioner	Talent development
		Self reflection	Various professional roles
12 Verantwoordelijkheid	3	Critical studies	Normative professional
		Empathy	Privacy
		Ethics	Security
		Give and take	Self-directed professional
		Sustainability	Well-being

Communication & Multimedia Design

Instellingen die de opleiding aanbieden:

- Avans Hogeschool
- De Haagse Hogeschool
- Hogeschool Arnhem en Nijmegen
- [Hogeschool Rotterdam](#)
- [Hogeschool Utrecht](#)
- [Hogeschool van Amsterdam](#)
- [NHL Hogeschool](#)
- [Zuyd Hogeschool](#)

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COMPETENTIES	NIVEAU	CMD VISIONS	CMD TRENDS
1 Technische kennis en analyse	2	(Social) Media technology	Big data
		Browser- and authoring tools	Content sensitive navigation
		Front-end technologies	Haptic interfaces
		Integrated development environments	Internet of things
		Integrated user-interface workbenches	Multiplatform and cross-platform technologies
		Interactive wireframe software	Natural interfaces
		Mobile and design web- and videosoftware	Rensponsive design
		Scripting software	Touch-enabled
		Sensor technology	
		Testing software	
		Usability software	
		Web-architecture	
		Webdesign and applicatietechnologie	
2 Ontwerpen en prototypen	2	Cognitive psychologie	
		Communication Design	Experiment and Innovation
		Experience prototyping	Strategic Design
		Human Computer Interaction	
		Human-centered design	
		Interaction and Experience Design	
		Lo & hi fi prototyping	

		Process Modelling	
		Service Design	
		Technical Knowledge and Skills	
		User requirements	
3 Testen en implementeren	2	Usability research	Cross-platform
		Usability testing (tools & methods)	Mobility
		Human behaviour (Gestalt, lifestyle)	Personalization
		Prototyping	Privacy
		Changemanagement	Security
4 Onderzoek en analyse	3	Design research	(Social) Media technology
		Human Centered design	Design Thinking
		Strategic & Service design	Innovation management
		problem exploratory and problem solving research	
		qualitative and quantitative research methods	
		visualize, document and report	
5 Conceptualiseren	3	Concepting	Co-design
		Human Centered	Participatory research

		User Participation	
		iterative and user-centered (technological) designs and prototypes	
		systems thinking (synthesize)	
		critical thinking	
		innovation management	
		visualize, document and report	
6 Vormgeven	3	visual design;	Collaborative content creatie
		content creation	Conversion
		Visualization Software/Tools	Data visualisation
		prototyping	Merge content creators and content consumers
		storytelling	
		Communication Design	
		Intercultural Design	
7 Ondernemende houding	3	Business modelling, business innovation and marketing	Globalization and localization
		Communication strategies	Innovation management
		Innovation management	New markets and niches
		business process modeling	
		Organisational Behavior (organizational maturity models) / network society	
		Desirability, Feasibility, Viability and Valorisation	
8 Ondernemende vaardigheden	2	Pro active networking	Flexibility labor market
		Projectmanagement	Funding
		Report and document	Sustainability
		initiating, organizing and directing	Wellbeing of humans is paramount
		Outside In Thinking	

9 Projectmatig werken	2	Projectmanagement	Co-creation
		Professional reflection and empathy	Co-design
		Cooperating in International Context	Interdisciplinary skills
		interdisciplinary collaboration	
		professional communication	
		initiating, organizing and directing	
		intercultural communication	
10 Communicatie	3	communicate, manifest and present	Multi-channeling
		(visual) documentation and reporting, customizable act	Multi-platform
		meeting techniques, organizing workshops	
11 Leren en reflecterend vermogen	3	Professional development and reflection (acquiring new knowledge, new skills, networks, critical reflection)	Critical reflection
		Critical thinking	Excellence
			Life long learning
			Personal development
			Talent development
			Various professional roles
12 Verantwoordelijkheid	3	ergonomics of interactive media	Privacy
		Media & Society (ethics, information overload, philosophy, cultural theory)	Security
		intercultural communication	Sustainability
			Wellbeing and participation of Human

Fashion & Textile Technologies

Instellingen die de opleiding aanbieden:

- Hogeschool van Amsterdam (AMFI)
- Saxion, Enschede

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Basics		Visions	Trends
1 Technische kennis en analyse	3	Apply production methods	ABM test
		Ennoble	Bio based materials
		Clothing technology	Bio plastics
		Weaving/Finishing/ Printing/Tufting	Commodities/raw materials lists
		Knowledge of colors	Cradle to cradle
		Knowledge of substrate	
		Manufacturing processes	Digital printing and breeding
		Mass customization	Digitizing
		Supply chain	Environmental impact analysis spin technologies
		Supply chain management	Fast fashion/Slow fashion
		Textile raw materials	Life cycle analysis
		Translation of the desired end-user features in material and process choices	Nano technology
		Washing methods	Polymer technology
		Spinning	Recycling
			Selection of needles
			Smart (responsive) textiles
	Smart fibers and yarns		
	Supply chain management		
	Sustainability/CSR		
	Time-to-market		
	Weft technologies		
2 Ontwerpen en prototypen	3	Assembling (Confectioneren)/ Building a collection/Knitting	3D printing
		CAD	CSR

		Clothing technology	Digitizing
		Converting 2D – 3D	Local development/global production
		Fashion branding	
		From concept to visual communication	
		History of fashion design	
		Innovation management	
		Inventory processes/materials/shapes/colors/techniques	
		Product breakdown	
		Program requirements	
		Stage-Gate model	
		Structural engineering/modelling	
		Technical drawings	
		Tooling	
		Trend forecasting and spotting	
		Weaving/Finishing/Printing/Tufting	
3 Testen en implementeren	3	Analysis and test results	3D fit
		Global sourcing	Body scanning
		Norms and standards (ISO NEN)	CSR
		Organize and evaluate a pilot run/sampling	Global or local production
		Supply chain management	Simulation
		Test protocol	
		Use of testing equipment	
4 Onderzoek en analyse	3	Applying research methods and techniques	Applied research
		Define research area	New sources (film/photos/digital experiment)
		Defining target groups	
		Market oriented and product oriented research and the integration of both	
		Research methods	

		Structures in reporting	
5 Conceptualiseren	2	Concept development	Brand experience
		Development of product visualization and marketing concept	Co-creation
		Formulate conceptual principles	Crowdsourcing
		Generating ideas/Brainstorming	Social media
		Holistic development	
		Innovation management	
		New product development	
		Translation from idea to concept	
6 Vormgeven	3	2D and 3D collections	3D printing
		Design thinking	Online development
7 Ondernemende houding	2	Branding	Dealer loyalty
		Business simulation games	Flex work
		Business skills	Mobile office
		Circular economy	Online media
		Generic strategies/Culture typologies	Open innovation
		Leadership	Re-shoring
		Marketing (retail)	Slash/slash generation
		Product innovations	Sourcing
		Strategic thinking and acting	
8 Ondernemende vaardigheden	3	B2B versus B2C	CIF
		Buying and purchasing	Co-branding
		Intercultural behaviour	Co-makership
		Laws and regulations	CSR
		Logistics	FCL
		Marketing communication strategies and branding	LCL
		Negotiating methods and techniques	Mass customization
		Price policy	Short lead time
		Strategic versus tactic	Social media

9 Projectmatig werken	2	Adaptive working	CAD
		Cost calculation	COD
		Finance	Deposit
		Lean management	L/C
		Project management	TT at sight
		Purchasing strategy (NEVI)	TT open term
		Work culture	Yellow-green-blackbelts
10 Communicatie	2	Digital visualisation (rendering/ recoloring)	Digitizing
		Dutch and English language	Internationalization
		Intercultural communication	Social networks
		Jargon	Visual culture
		Meeting skills	
		Reporting skills	
		Use various forms of presentation	
		Visualization	
11 Leren en reflecterend vermogen	2	Create opportunities to learn and use	Critical reflection
		Critical thinking	Excellence
		Feedback (giving and receiving)	Life long learning
		Proactivity	Personal development
		Reflective practitioner	Talent development
12 Verantwoordelijkheid	3	Code of conduct (NEVI)	Normative professional
		Sustainability/CSR (Social / Economical/Ecological)	Pilot
		Intellectual property	Self-directed professional
		International codes of conduct	
		Legal liability	
		Professional ethics	
		Quality	
		Research ethics	
		Security and well-being	
		Ethics	

