

Course Title	Big Data & AI		
Semester	Spring (semester 2)		
Inholland Faculty	Faculty of Engineering, Design and Computing, Department of Information Technology		
Language of instruction	English		
Cycle	Bachelor level		
Inholland Location	Haarlem		
Code Subjects	Code	Subject Title	ECTS
	1922PBDAIZ	Project Big Data & AI: Design	5
	1922BDAIFZ	Big Data & AI Fundamentals	2
	1922CVIS1Z	Computer Vision 1	2
	1922DMSTAZ	Data Mining & Statistics	3
	1922PYTHTZ	Python & Tools	1
	1922RESBDZ	Research Big Data	2
	1922BDPOCZ	Project Big Data & AI: PoC	6
	1922PARDPZ	Parallel Distributed Processing	3
	1922CVIS2Z	Computer Vision 2	2
	1922NLNGPZ	Natural Language Processing	2
	1922CAPSLZ	Capita Selecta	1
	1916GE011Z	Professional Presenting	1
Number of ECTS	30		
Content subjects	<p>The need for data scientists has grown exponentially over the past few years. While there are many Big Data or Data Science minors out there, this minor uniquely focuses on the interaction between the field of Data Science and Artificial intelligence and uses a software-oriented approach to solving ‘wicked (data) problems’.</p> <p>The core of the minor consists of a group project for an external client, which provides you the opportunity to work on real-life realistic problems.</p>		
Lecturer(s)	Teachers of the Information Technology study program (Haarlem) and guest lecturers from the research group (lectorate) Data Driven Smart Society		

	provide lectures. Workshops and training sessions are provided by specialists from the field of big data and artificial intelligence.
Learning outcomes	<p>The student is able to:</p> <ul style="list-style-type: none"> • work on a data science driven research project • create and train a machine learning model/pattern • create an application to show the outcomes of the machine learning / deep learning models/patterns • design and develop a highly scalable parallel distributed processing cluster of nodes • cooperate with fellow students in software development activities • effectively communicate with external clients
Mode of delivery, planned activities and teaching methods	<p>The need for data scientists has grown exponentially over the past few years. While there are many Big Data or Data Science minors out there, this minor uniquely focuses on the interaction between the field of Data Science and Artificial intelligence and uses a software-oriented approach to solving ‘wicked (data) problems’.</p> <p>The core of the minor consists of a group project for an external client, which provides you the opportunity to work on real-life realistic problems.</p> <ul style="list-style-type: none"> • Workshops by experts • Do research with your project group • Lectures on theory combined with practical exercises
Prerequisites and co-requisites (if applicable)	Audience: Bachelor ICT 3rd year with experience in programming.
Recommended or required reading and/or other learning resources/tools	
Assessment methods and criteria	<ul style="list-style-type: none"> • Project assessment for Big Data & AI • Project consisting of a written report, a code review and a presentation of the created application. • Individual final assignment for Machine Learning, Deep Learning & Statistics (Data Mining) • Individual final assignment for Big Data & AI Fundamentals • Individual weekly assignments for Parallel Distributed Systems (Hadoop) • Individual weekly assignments for Computer Vision

	All assessments must be completed with a sufficient grade (55 or higher)
Contact	Petra Folkertsma, Haarlem petra.folkertsma@inholland.nl Annemarie Burger, Haarlem Annemarie.burger@inholland.nl