

Overzicht Modules GW , in vet de te ontwikkelen modules, totaal aantal tussen haakjes ( )  
Dr. Henk Boer, clustertrekker GW versie: 9 mei 2012

Overzicht modules Psychologie (met inbedding OWK)

Jaar 1

Module 1:

Psychologie en Ontwerpen (1)
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Module 2:

Sociaal gedrag (2)
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Module 3:

Denken en leren (3)
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Module 4:

Het individu (4)
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Jaar 2

Module 5 (keuze van 1 uit 3)

Geestelijke gezondheid (5)	Conflict, risico en veiligheid (6)	Onderwijs (7) / Ontwerpen van onderwijskundige media toepassingen
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Module 6 (keuze van 1 uit 3)

Geestelijke Gezondheid	Gezondheidspsychologie (8)	Human Factors (9)
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Module 7

Module 8

Onderzoeksopdracht (10)	Professionele vaardigheden (11)
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### Jaar 3

#### Module 9 (keuze)

Keuze module Psy (keuze uit module 5)	Keuze module andere opleiding (bijvoorbeeld CW module 5)	<b>Keuzemodule OWK Curriculum en professionalisering (12)</b>
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#### Module 10 (keuze)

Keuze module Psy (keuze uit module 6)	Keuze module andere opleiding (bijvoorbeeld CW Module 6)	<b>Keuze module OWK Leren binnen arbeidsorganisaties (13)</b>
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#### Module 11

#### Module 12

<b>Reflectie (14)</b>	<b>Bachelor thesis (15)</b>
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## Overzicht Modules Communicatiewetenschap

### Jaar 1

#### Module 1:

<b>Communicatiewetenschap en Ontwerpen (16)</b>
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#### Module 2:

<b>Communicatie en Onderzoek (17)</b>
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#### Module 3:

<b>Communicatiecampagnes (18)</b>
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#### Module 4:

<b>Marketing communicatie (19)</b>
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### Jaar 2

#### Module 5 (keuze 1 uit 2)

<b>Mediapsychologie (20)</b>
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<b>Consultancy (21)</b>
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#### Module 6 (keuze 1 uit 2)

<b>Public affairs (22)</b>
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<b>Technical communication (23)</b>
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#### Module 7:

<b>Corporate communicatie (24)</b>
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#### Module 6:

<b>Media en communicatie (25)</b>
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### Jaar 3

#### Module 9 (keuze)

Keuze module CW (keuze uit module 5)	Keuze module andere opleiding (bijvoorbeeld Psy module 5)	Keuzemodule OWK Curriculum en professionalisering
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#### Module 10 (keuze)

Keuze module (keuze uit module 6)	Keuze module andere opleiding (bijvoorbeeld Psy Module 6)	Keuze module OWK Leren binnen arbeidsorganisaties
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#### Module 11

#### Module 12

<b>Reflectie in de CW (26)</b>	<b>Bachelor thesis (27)</b>
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Hierbij het overzicht van de modules die we voor het cluster BA ontwikkelen:

- De eerste module is vooral ter motivatie en introductie op het gehele bedrijfskunde domein. De tweede module is naast inhoud gericht op zelf-selectie. Vervolgens 2 modules gericht op kerncompetenties. Dan volgen in het 2<sup>e</sup> jaar nog 2 verplichte modules waarin UT signature en helicopterview centraal staan. Zowel de M&T lijn, internationaliserings-lijn als lijn voor business competences lopen door het gehele verplichte curriculum. Na het verplichte deel start het keuze deel met daarin een praktijkopdracht, study abroad, specialisaties en thesis.
- Er wordt later nader bekeken op welke wijze wordt omgegaan met taal in varianten van de opleiding. De modules worden inhoudelijk door alle opleidingen\varianten gedeeld.
- De inhoud van de modules staat in bovengegeven schema.

Voor elke module is een team aan de slag met de ontwikkeling van de module. Daarnaast zijn er “support teams” die adviseren en waarin experts uit andere subdomeinen. Voor internationalisering, M&T, de thesis, study abroad etc zijn aparte ontwikkel teams.

MvG

Corrie Huijs

Kw. 1.1	Mod 1 cc	15 EC	<b>TOP: Technology, People, Organization</b> (Organizations as Open Systems; intro to the main BA domains ) Focus: AC1 – GC1 – AC2 – GC4		
Kw. 1.2	Mod 2 cc	15 EC	<b>BOM: Business Operations Management</b> (Purchasing, Operations Management; Production Management) Focus: AC1 – GC1 – AC2 – GC3 – GC2 – AC3		
Kw. 1.3	Mod 3 cc	15 EC	<b>FAIM: Finance, Accounting, &amp; Information Management</b> (F&A, Information Mnt & Decision Making) Focus: GC1 – AC2 – GC2 – AC3 – GC3 – GC4		
Kw. 1.4	Mod. 4 cc	15 EC	<b>SOM: Strategy, Organizations &amp; Marketing</b> (Introduction to Strategic Management, Marketing, Economics) Focus: AC1 – GC1 – AC2 – GC3 – GC4		
<b>AFTER THE FIRST YEAR WE OFFER AN HONOUR TRACK</b>					
Kw. 2.1	Mod. 5 cc	15 EC	<b>Innovation &amp; Entrepreneurship</b> (International Business Development & Technology Venturing) UT- signature		
Kw. 2.2	Mod. 6 cc	15 EC	<b>Corporate Governance &amp; Business Ethics</b> (Business Ethics, Corporate Governance, Business Law, Change Management & Leadership)		
Kw. 2.3	Elective 1	15 EC	CONCENTRATION I		
Kw. 2.4	Former IR& project / internship)	15 EC	Firm analysis and integrated company study & design Focus: AC3 – GC4 – AC4 (Internship & Design assignment ) (consultancy, change management – practice-oriented)		
Kw. 3.1 & 3.2	Free elect.	30 EC	"Minors" or study abroad FOCUS: AC3 – GC4 – AC4		
Kw. 3.3	Elective 2	Th	15 EC	CONCENTRATION II	
Kw. 3.4	Thesis	15 EC	15 EC	Thesis (research oriented)	

M&T line:

Internationalization line:

Academic and Business competences line

PROJECTS

AC 1: describe, structure and analyse organisations, organisational problems and processes;  
GC 1: identify and evaluate economic, legal, ethical, cultural, social and technological interactions of organisational decisions;  
AC 2: apply current theories, models and methods in the analysis of organisations, organisational problems and processes;  
GC 2: collect and analyse information from diverse sources using modern communication and information technology media;  
AC 3: draw and support reasoned conclusions and recommend appropriate solutions;  
GC 3: demonstrate individual and inter-personal skills of effective communication, listening, negotiation and persuasion;  
GC 4: give a structured presentation, both orally and in writing, on a topic in business administration to both specialist and non-specialist audiences.  
AC 4: manage projects and processes of limited scope







	BMT 80	TG 120	GZW 60
B1K1	maakbare mens	anatomie, beeldvormende technieken, biologie wiskunde	Health systems & organisation of healthcare (HOH)
B1K2	Micr.detectie	Pathofysiologie, wiskunde project	Technology in healthcare (TIH) overlap met BMT m.b.t. Celbiologie micr detectie
B1K3	meten is weten	Regulatie&integratie signaalverwerking prof gedrag	Health services research (HSR) (*)
B1K4	adapterende botten	cardiovasculair systeem wiskunde stage	Ziektelast en zorgsysteem (ZeZ) (*)
B2K1	creat. Biol. Tissue	Respiratoir Systeem wiskunde	Health economics & Management Accounting (HEMA)
B2K2	modeling transport phenomena	immuunsysteem, spijsverteringssysteem prof gedrag	Operations Management (OM)
B2K3	imaging technologies	neurale systeem epidemiologie statistiek	voorwaardelijke keuze
B2K4	smart prosthetics	mens en beweging project gezondheidsrecht	vrije keuze
B3K1	KEUZE SRO N&M	urogenitaal systeem epidemiologie statistiek MTA	High Tech Human Touch (HTHT)
B3K2	KEUZE SRO I&D	Applied cellbiology ethiek recht stage	VRIJE KEUZE
B3K3	KEUZE SRO TR	zintuiglijk systeem biomaterialen prof gedrag	thesis of keuze (nog te bepalen)
B3K4	thesis	thesis	thesis

organisatie van zorg

economie

geneeskunde

*\*Opmerking;  
Afhankelijk van wat in verticale leerlijnen en per module wordt aangeboden kan de inhoud & titel van module 3 & 4 nog (onderling) variëren.*

**BACHELOR PUBLIC ADMINISTRATION**  
**PROGRAMME OVERVIEW**  
 NG, 7-5-2012

Y.Q	Core/optional	Name	Core focus	(Area of the) project theme
-	-	Programme introduction	The main public challenges of our time: Europe 2020 (smart, inclusive, sustainable growth) What is public administration/public governance?	-
1.1	Core	Home, sweet home?	Westphalian state (territorial sovereignty) & the welfare state	Sustainability: Energy policy (= UT theme?)
1.2	Core	Beyond the state (1): European integration, decentralization & globalization	Multi-level governance and international organizations	Inclusion: Immigration policy
1.3	Core	Making policies (work)	Policy analysis, design & implementation	Sustainability: Water governance
1.4	Core	Beyond the state (2): Public meets private	Multi-actor governance, network governance and PPPs	Smartness/governance of innovation: Innovation policies
2.1	Core	Value for money	Public management and public sector reform	Smartness/innovation of governance: Public procurement and purchasing management
2.2	Core	Best practices in public governance	Comparative public governance	Inclusion: Employment policies/European Social Survey
2.3A	Optional	Global governance (1)	The global economic, legal and political order and the main global social problems	Millennium goals/poverty
2.3B	Optional	European governance (1)	Integration beyond the single market	Eurozone
2.3C	Optional	(Sub-)national governance (1)	Local democracy & citizen involvement	Spatial planning/The Roombeek-case
2.4A	Optional	Global governance (2)	Global security	Conflict resolution and peace keeping
2.4B	Optional	European governance (2)	The EU in Europe	European Neighbourhood Policy
2.4C	Optional	(Sub-)national governance (2)	Participatory governance	E-governance
3.1A	Optional	Module <i>ab extra</i>	-	-
3.1B	Optional	Internship/exchange (1)	-	-
3.1C	Optional	Advanced professional skills	Negotiations, debating and intercultural skills	International negotiations (simulation)
3.2A	Optional	Module <i>ab extra</i>	-	-
3.2B	Optional	Internship/exchange (2)	-	-
3.2C	Optional	Advanced research skills	Large N research	European Social Survey/DataLab
3.3	Core	Thesis semester	Thesis research + writing	-
3.4				

### **MODULE DESCRIPTIONS**

<b>1.1</b>	<b>CORE</b>	<b>HOME, SWEET HOME?</b>	<b>ENERGY POLICY</b>
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This module introduces the “classic” state as a sovereign entity within its own territory (Westphalian state) and as a provider of services (welfare state). It deals with the main legal, political and economic/fiscal functions of the state.

The project theme deals with energy policy. This theme brings together various interesting aspects which do not only cover the “classic” state, but which also involve some of the major issues in contemporary public governance, which will be elaborated in subsequent modules:

- The state as service provider;
- Government and markets (state monopolies, privatization);
- Regulation, subsidies and taxation as core policy instruments;
- The role of the EU;
- Globalization.

General domains to be covered	Governance theory and practice
Discipline-specific domains to be covered	Introduction to economics/economics of public governance Introduction to law/law of public governance
Research methods and statistics*	Introduction and overview of research methodology Literature search, referencing
Professional skills (focus)*	Informational skills

All research and professional skills will be developed throughout the curriculum, in two separate “leerlijnen”, taking into account the necessity to develop these competences in a cumulative way, including repetition. Listed in the module descriptions are those skills to which the module pays specific attention.

<b>1.2</b>	<b>CORE</b>	<b>BEYOND THE STATE (1): EUROPEAN INTEGRATION, DECENTRALIZATION &amp; GLOBALIZATION</b>	<b>IMMIGRATION POLICY</b>
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This module deals with the loss of sovereignty of states, and the transfer of competences to subnational authorities and to international organizations on the European and global level. It focuses on three processes: decentralization, the process of European integration and the process of globalization. It thoroughly introduces the European Union, as the main international organization in European public governance, its institutional development and its main policies.

The project theme is immigration policy. This theme is especially suited for this module because migration issues are relevant at all levels of governance (urban/local, regional, national, European and global).

General domains to be covered	Governance theory and practice
Discipline-specific domains to be covered	Introduction to sociology/sociology of public governance Introduction to political science/politics of public governance
Research methods and statistics	Descriptive statistics, SPSS, probability theory
Professional skills	Writing skills (research papers) Oral presentation and debating skills

<b>1.3</b>	<b>CORE</b>	<b>MAKING POLICIES (WORK)</b>	<b>WATER GOVERNANCE</b>
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This module deals with policy analysis, policy design and issues of policy implementation, i.e. the entire policy cycle. The main objective of this module is to familiarize students with the entire policy cycle (evaluation of existing problems and policies, (re-)design of policies, implementation). The subject matter will deal with both theoretical approaches to policy-making and with practical tools that future policy-makers need.

The project theme will be water governance. In terms of professional skills the main focus will be on writing policy briefs and policy reports.

General domains to be covered	Governance theory and practice Policy analysis, design and implementation
Discipline-specific domains to be covered	PM
Research methods and statistics	Data collection methods
Professional skills	Writing skills (policy documents) Presentation skills and feedback skills

<b>1.4</b>	<b>CORE</b>	<b>BEYOND THE STATE (2): PUBLIC MEETS PRIVATE</b>	<b>INNOVATION POLICIES</b>
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This module focuses on multi-actor governance. It deals specifically with issues of deconcentration and agency-formation, government versus markets, hybrid organizations and public-private partnerships. The project theme is innovation as a challenge for multi-actor governance, within a context of multi-level governance (regional, national and European).

General domains to be covered	Governance theory and practice
Discipline-specific domains to be covered	PM (economics and law mainly)
Research methods and statistics	Inferential statistics, hypothesis testing
Professional skills	Cooperation and leadership skills (in a multi-disciplinary and multi-cultural context), process management skills

<b>2.1</b>	<b>CORE</b>	<b>VALUE FOR MONEY</b>	<b>PUBLIC PROCUREMENT &amp; PURCHASING</b>
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Public management is a core domain within public administration, and combines insights from the discipline of economics (public financial management) and organization theory. While issues of policy effectiveness and legitimacy are covered in other modules, the core object of this module is the efficient use of resources by public entities.

The project theme is public procurement & purchasing. This theme is especially suited as it is relevant to multiple governance levels: local/regional and national governments increasingly face (EU) public procurement regulation and act as purchasers of services on behalf of their citizens.

General domains to be covered	Public management & public sector reform
Discipline-specific domains to be covered	PM
Research methods and statistics	Research design
Professional skills	Informational skills

<b>2.2</b>	<b>CORE</b>	<b>BEST PRACTICES IN PUBLIC GOVERNANCE</b>	<b>EMPLOYMENT POLICIES</b>
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This module uses a comparative approach. Increasingly, governance practices are derived from peer learning and the (horizontal and vertical) transfer of best practices (open coordination). This module deals with best (and worst) practices in governance and with the issue of transferability of governance modes. The project theme will be employment policies. In terms of research skills emphasis will be put on regression techniques, using European Social Survey data.

General domains to be covered	Governance theory and practice
Discipline-specific domains to be covered	PM
Research methods and statistics	Regression
Professional skills	Oral and written communication skills

<b>2.3A</b>	<b>OPTIONAL</b>	<b>GLOBAL GOVERNANCE (1)</b>	<b>MILLENNIUM GOALS/POVERTY</b>
<b>2.4A</b>	<b>OPTIONAL</b>	<b>GLOBAL GOVERNANCE (2)</b>	<b>CONFLICT RESOLUTION &amp; PEACE KEEPING</b>

These modules allow students to specialize in global governance. Students do not have to follow both global governance modules, i.e. in 2.3 and 2.4 they can choose from all modules 2.3A-C and 2.4A-C.

The project themes deal with topics that –over decades- have proved to be highly popular with students: global development issues and global security.

General domains to be covered	Governance theory and practice
Discipline-specific domains to be covered	Global economics The global legal order Global politics Global social problems
Research methods and statistics	Conceptualization, operationalization and measurement Analysis of variance
Professional skills	Language skills

<b>2.3B</b>	<b>OPTIONAL</b>	<b>EUROPEAN GOVERNANCE (1)</b>	<b>EUROZONE</b>
<b>2.4B</b>	<b>OPTIONAL</b>	<b>EUROPEAN GOVERNANCE (2)</b>	<b>EUROPEAN NEIGHBOURHOOD POLICY</b>

These modules allow students to specialize in European governance. Students do not have to follow both European governance modules, i.e. in 2.3 and 2.4 they can choose from all modules 2.3A-C and 2.4A-C.

The project themes of the two modules deal with the main current internal challenges of the EU (exemplified by the Eurozone crisis) and one of its external challenges: how to deal with its European neighbours.

General domains to be covered	Governance theory and practice
Discipline-specific domains to be covered	European economics European law European politics European social problems
Research methods and statistics	Conceptualization, operationalization and measurement Analysis of variance
Professional skills	Language skills

<b>2.3C</b>	<b>OPTIONAL</b>	<b>(SUB-)NATIONAL GOVERNANCE (1)</b>	<b>SPATIAL PLANNING/ROOMBEEK</b>
<b>2.4C</b>	<b>OPTIONAL</b>	<b>(SUB-)NATIONAL GOVERNANCE (2)</b>	<b>E-GOVERNANCE</b>

These modules allow students to specialize in (sub-)national governance. Students do not have to follow both (sub-)national governance modules, i.e. in 2.3 and 2.4 they can choose from all modules 2.3A-C and 2.4A-C.

The project of module 2.3C deals with spatial planning (in Dutch: gebiedsontwikkeling); this module could be offered jointly with civil engineering.

The project theme for the second module will be e-governance, with a focus on applications at the (sub-)national level.

General domains to be covered	Governance theory and practice
Discipline-specific domains to be covered	Regional/local/national economics Regional/local/national law Regional/local/national politics Regional/local/national sociology
Research methods and statistics	Conceptualization, operationalization and measurement Analysis of variance
Professional skills	Language skills

<b>3.1A</b>	<b>OPTIONAL</b>	<b>MODULE AB EXTRA</b>
<b>3.2A</b>	<b>OPTIONAL</b>	<b>MODULE AB EXTRA</b>

These modules refer to the possibility for students to choose modules that are not part of the programme.

<b>3.1B</b>	<b>OPTIONAL</b>	<b>INTERNSHIP/EXCHANGE (1)</b>
<b>3.2B</b>	<b>OPTIONAL</b>	<b>INTERNSHIP/EXCHANGE (2)</b>

These modules refer to the possibility for a –guided- internship or international exchange. Students are expected to use a full semester (modules 3.1B + 3.2B) for their internship or exchange.

For the internship module learning objectives will mostly relate to professional skills. Minimum learning objectives, the internship format and supervision practice will build on earlier experiences with –compulsory- internships in our programme (until mid-1990s).

International exchange will also take place under some –limited- supervision. Exchange will preferably take place with a select group of Erasmus partners, and will involve fixed sets of courses.

<b>3.1C</b>	<b>OPTIONAL</b>	<b>ADVANCED PROFESSIONAL SKILLS</b>	<b>INTERNATIONAL NEGOTIATIONS (SIMULATION GAME)</b>
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This module involves a simulation game. This game will be developed internally (building on an existing and successful project in the current curriculum) and/or we will use the offer of existing simulation games (EU Council of Ministers simulation, Model United Nations simulations, NATO simulations, diplomatic simulations as offered by Clingendael).

<b>3.2C</b>	<b>OPTIONAL</b>	<b>ADVANCED RESEARCH SKILLS</b>	<b>EUROPEAN SOCIAL SURVEY/DATALAB</b>
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This module is meant for students that –after completion of the BSc programme in PA- intend to follow a research master, or are interested in research positions outside of academia. It focuses on large-N research and involves use of European Social Survey data and the IGS-DataLab.

<b>3.3 + 3.4</b>	<b>CORE</b>	<b>THESIS SEMESTER</b>	-
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The thesis semester will involve teaching in research methodology that is particularly relevant to the thesis research (proposal writing, reporting). Thesis research will be done and assessed individually but groups of students will be formed that work on similar research topics. These topics will be linked to on-going research at the department. The actual thesis research and writing will take place mainly in 3.4. It is finalized by research seminars during which students present and discuss their thesis, under supervision of staff. The final assessment of the thesis and the supervision will be separated (i.e. supervisors are no longer the final assessors of the thesis).

This module will also involve the development of life-long learning skills (including job market orientation)



### **MISSION, DOMAIN, CHARACTER**

Our mission is as follows: *The Twente Public Administration programmes are committed to providing best quality programmes that educate people who are able to address the grand current and future challenges in public governance.* These challenges include those mentioned in the Europe 2020 strategy: employment, innovation, education, social inclusion and climate/energy. We want our alumni to contribute to solving so-called *wicked policy problems*, i.e. complex public problems that are highly resistant to resolution.

The domain of our programme is the *study of public governance*, i.e. public institutions in interaction with the social environment. The identification and articulation of public problems and the design and management of adequate (i.e. effective, efficient and legitimate) problem-solving policies, increasingly hinges on the interplay of (formal) authorities with multiple social actors: citizens, interest groups, companies, civic organizations and social institutions. Furthermore, in addressing public issues, actors also have to deal with multiple levels of public governance: local, regional, national, international, global. Finally, given the nature of the public problems we address, public governance deals with dynamic issues, within a constantly changing context. Thus, the Twente approach is *particularly based on multi-actor and multi-level analysis of dynamic public problems and aims at solutions that meet both functional (effectiveness, efficiency) and procedural criteria (rule of law, legitimacy, legality, and democracy).*

As far as the character of our programme is concerned, *multi-disciplinarity* is a core element and the “Twentse formule” is fundamental for the new curriculum: the programme provides a solid introduction in research-based social science (because in our view research methodology is fundamental) and in the core disciplines of Public Administration (economics, law, political science, sociology). In addition, our programme is *interdisciplinary* in that it integrates perspectives from the various disciplines. It links insights from academia and practice and aims at problem-solving. Finally, the programme deals with research, policy-design and management, which is our “translation” of the UT three O-concept of *Onderzoeken, Ontwerpen en Organiseren*. The general UT profile (High Tech, Human Touch) is incorporated through our focus on the grand challenges of our time, where technology and social sciences meet.

### **ALUMNI PROFILE AND TARGET GROUP OF PROSPECTIVE STUDENTS**

Our programme prepares for research, policy-oriented and managerial positions within the public governance domain and/or entry into master programmes in the broad field of governance. Alumni can be employed in the public sector (as civil servants) as well as in the private sector (in companies, NGOs), and at all possible levels (local, regional, national, international, global). We do not train specialists but we train generalists, who, in their professional environment, are able to specialize.

We aim at prospective students from all over Europe and at a truly international student population. As far as the target group is concerned, we want to attract students that are above average.

**EXIT QUALIFICATIONS & CORE COMPETENCES**  
**More specific learning objectives for each area are being developed**

Based on the various exit qualifications in the field (Dublin descriptors, Meijers-criteria, TUNING reference points for European Studies, ICB/VSNU/QANU, EAPAA) and keeping in mind the alumni profile, we define the following core competences:

- A. Competent in governance, policy-making and public management;
- B. Competent in the core disciplines of economics, law, political science and sociology;
- C. Capable of integrating disciplinary perspectives;
- D. Competent in doing research (including literature search and referencing);
- E. Professional skills;
- F. Attitude.

A-General knowledge domains

Governance theory and practice

Policy analysis, design and implementation

Public management & public sector reform

B-Discipline-specific knowledge domain

Introduction to economics/economics of public governance

National/regional/local economics

European economics

Global economics

Introduction to sociology/sociology of public governance

National/regional/local social problems

EU social policies

Global social problems

Introduction to law/law of public governance

National/regional/local law

EU law

Global legal order

Introduction to political science/politics of public governance

National/regional/local politics

EU politics

Global politics

C-Integration

PM

#### D-Research

See document Glas c.s. (already incorporated in the module outline)

#### E-Professional

Informational skills (in addition to academic literature search and referencing)

Writing skills (policy documents, research papers)

Oral communication skills (presenting skills, debating skills, feedback skills)

Language skills

Cooperation and leadership skills (in a multi-disciplinary and multi-cultural context), process management skills, negotiation skills

Life-long learning skills (including job market orientation)

#### F-Attitude

PM

**Advanced Technology**

**Electical Engineering**

**Scheikundige Technology**

**Technische Natuurkunde**

**Toegepaste Wiskunde**

**B1.1**

Introductie Wiskunde
Calculus 1a
Introduction to Engineering 1 Analysis fo Technology in Soc. Project sport
Vaardigheden (comm., inf.)

Introductie Wiskunde
Calculus 1a
IEEE Introduction
Vaardigheden (comm., inf.)

Introductie Wiskunde
Calculus 1a
Inl. materiaalkunde Science practicum Science project
Vaardigheden (comm., inf.)

Introductie Wiskunde
Calculus 1
Thermodynamica Project sport
Vaardigheden (comm., inf.)

Introductie Wiskunde
Calculus 1
Kaleidoscoop Project Sport
Vaardigheden (comm., inf.)

\* Kwartiel rond Ontwerpen

**B1.2**

Calculus 1b
Introduction to Engineering 2 Materials Engineering 1
Experimenteren 1
Vaardigheden (comm., inf.)

Calculus 1b
Electrical Networks
Experimenteren 1
Vaardigheden (comm., inf.)

Calculus 1b
Energie (thermodynamica) Inl. Procestechologie Project Duurzame Energie
Experimenteren 1
Vaardigheden (comm., inf.)

Lineaire Structuren 1
Quantumverschijnselen
Experimenteren 1
Vaardigheden (comm., inf.)

Lineaire Structuren 1
Analyse 1 A&P + LP (project)
Vaardigheden (comm., inf.)

\* Kwartiel rond Onderzoeken

**B1.3**

Lineaire Algebra
Introduction to Engineering 3 Materials Engineering 2 Instrumentatie practicum Project 3 (accelerometer) Long term development 1
Vaardigheden (comm., inf.)

Lineaire Algebra
Electronics
Vaardigheden (comm., inf.)

Lineaire Algebra
Organische Chemie Anorganische Chemie Pract. Synthese Basisvaard. en Chem. Analyse 1
Vaardigheden (comm., inf.)

Lineaire Structuren 2
Dynamica Klassieke Mechanica Propedeuse project
Vaardigheden (comm., inf.)

Lineaire Structuren 2
GDV IWS Practicum IWS & GDV
Vaardigheden (comm., inf.)

**B1.4**

Calculus 2a
Introduction to Engineering 4 Materials Engineering 3 Project 2 vervolg Long term development 2
Vaardigheden (comm., inf.)

Calculus 2a
E&M extra voor EE
Elektriciteit & Magnetisme
Project Fields and Waves
Vaardigheden (comm., inf.)

Calculus 2a
Fysische chemie Chemische fysica + spectrom. Pract. Synthese Basisvaard. en Chem. Analyse 2
Vaardigheden (comm., inf.)

Calculus 2
Elektriciteit & Magnetisme
Project Fields and Waves
Vaardigheden (comm., inf.)

Calculus 2
Elektriciteit & Magnetisme
Project Fields and Waves
Vaardigheden (comm., inf.)

\* ook voor AT in B2.4?

	Advanced Technology	Electical Engineering	Scheikundige Technology	Technische Natuurkunde	Toegepaste Wiskunde
<b>B2.1</b>	ECS 1a MM a MPS Keuze  Vaardigheden (comm., inf.)	Computer Science (gedeeld met Tech. Informatica)  Vaardigheden (comm., inf.)	<b>Maakbare producten</b> Industriële chemie Life cycle analysis Kin & Kat Proj. Productontwerp Vaardigheden (comm., inf.)	<b>Engineering</b> (Signalen & Transformaties Fysische Signaalanalyse Instrumentatie) Vaardigheden (comm., inf.)	Analyse 2 Kansrekening Grote denkers Vaardigheden (comm., inf.)
<b>B2.2</b>	ECS 1b MM b Project LOC Keuze  Vaardigheden (comm., inf.)	Systems and Control  Vaardigheden (comm., inf.)	<b>Transport</b> (stromingsleer, pdv's, numerieke methoden) Vaardigheden (comm., inf.)	<b>Vloeistoffysica</b> (stromingsleer, pdv's, numerieke methoden) Vaardigheden (comm., inf.)	Discrete wiskunde en formele methoden (gedeeld met Tech. Informatica) Vaardigheden (comm., inf.)
<b>B2.3</b>	ECS 2a DIF a I&O Keuze	Device Physics	<b>Maakbare mol. &amp; materialen</b> Biomolec. Chemie Faseleer + colloid chemie nanochemie Proj. Synthese & analyse	<b>Optica &amp; Biofysica</b> (Inleiding optica, practicum optica, E&M velden en golven, Project biofysica)	S&T Numerieke W. & Modell. Statistiek A&P
<b>B2.4</b>	ECS 2B DIF b Project Startrix Keuze	Signals	<b>Maakbare processen</b> Inl. scheidingstechn. Inl. reactorkunde Proj. Procesontwerp	<b>Vaste stoffysica</b> (vaste stoffysica, practicum vaste stoffysica, inleiding quantummechanica, statistische fysica)	Math. Opt. Markof Ketens & SMOM Stoch. Sim.

**Advanced Technology****Electical Engineering****Scheikundige Technology****Technische Natuurkunde****Toegepaste Wiskunde****B3.1**

Keuze uit module Science of Engineering

**Verdiepende module**  
Materiaalkunde & nano of procestechnologie**B3.2**

Keuze uit vervolgmodule Science of Engineering

**B3.3**Compl. F. Theorie  
Filtering / Grafen  
PDV / Reg. Var.**B3.4**