

An aerial photograph of a modern university campus. On the left, a long, multi-story white building with a grid of windows runs parallel to a red brick path. To the right, a wide, paved walkway leads through a green lawn with several young trees. In the background, a tall, modern glass skyscraper with a red vertical stripe stands against a blue sky with scattered white clouds. The overall scene is bright and open.

Graduate School: the Delft way

Robert F. Mudde

Graduate School: the Delft way

Why?

- Human Resource Policy: Freedom to Excel
- Be an international player
- Strive for quality,
also in supervising & educating PhD's
- Provide the best possible starting point
for the next step



About TU Delft

Oldest and largest University of Technology in the Netherlands with 8 faculties

22.500 BSc+MSc students
2.650 PhD students

International University:

- 1/3 MSc-students foreign
- well over 100 nationalities
- 2/3 PhD students foreign
- international staff (especially the younger generation)





Applied Sciences

Science

Electrical Engineering,
Mathematics and
Computer Science



'Liberal'

Technology, Policy
and Management

TU Delft: 8 Faculties

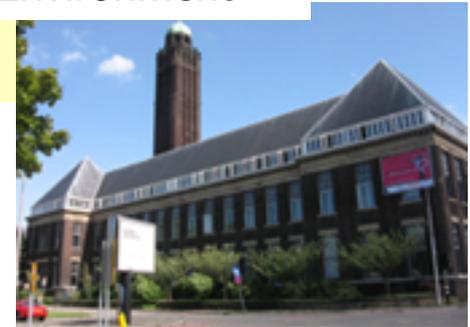
Construction

- **Construction Department**
- **Architecture and the Built Environment**
- **Industrial Design Engineering**

Aerospace Engineering



Architecture and the
Built Environment



Civil Engineering
and Geosciences



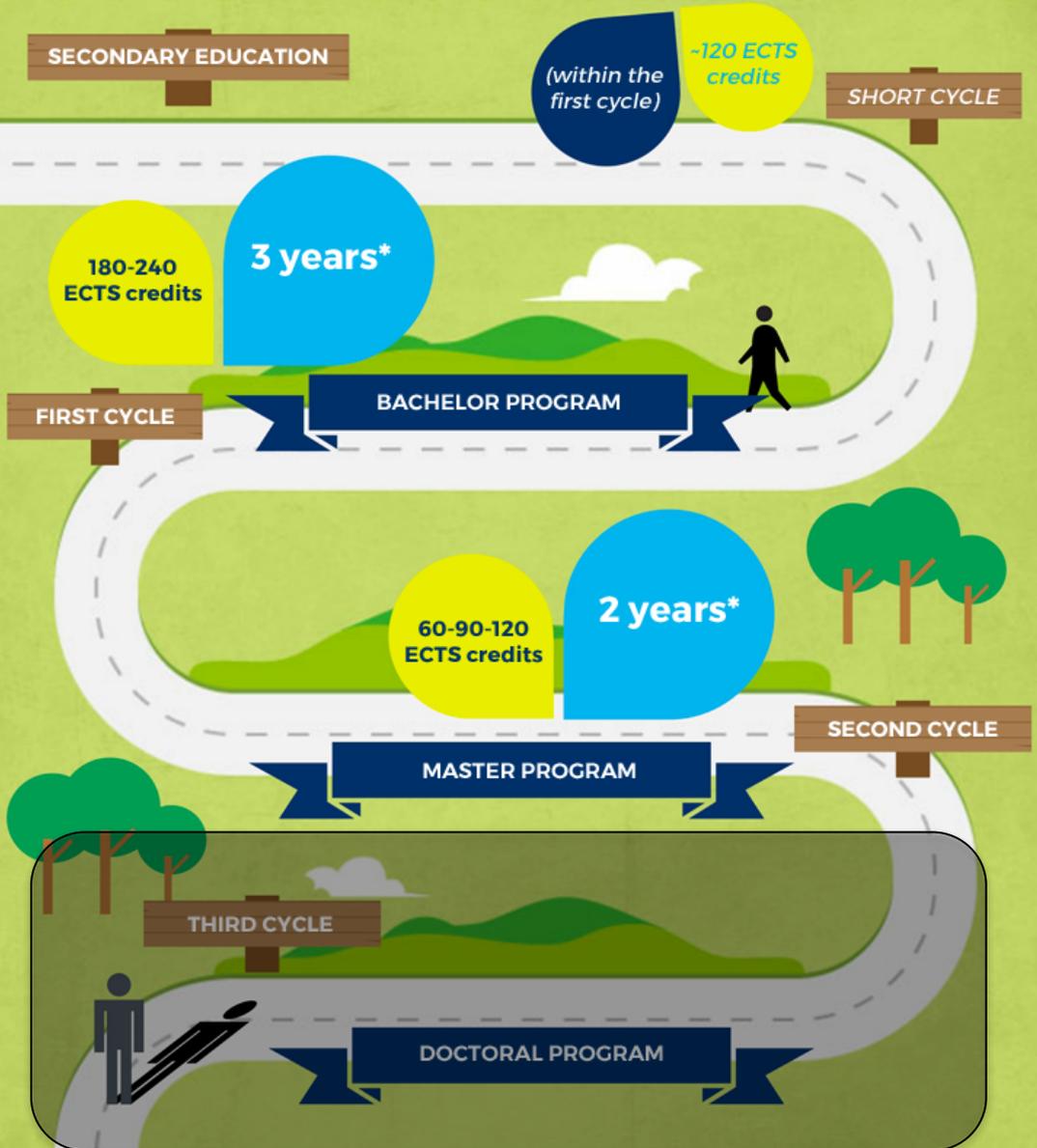
Mechanical,
Maritime and
Materials Engineering

Design



Industrial Design Engineering

THREE CYCLE SYSTEM



* This diagram is based on simplified data. The number of years of each cycle varies by country.

V2 September 2016 - BFUG Sekretariat

Bologna Declaration (1999)

&

Berlin Conf. (2003)

Higher Edu = 3 cycles

NL-flavor:

BSc = 3 years = 180
EC

MSc = 2 years = 120 EC

PhD = 4 years

Graduate School



BSc

MSc

USA	Delft
<p>PhD-student accepted to Grad School scholarship</p> <p>start: September</p> <p>year 1: mainly classes</p> <p>after y1: choose topic & advisor</p> <p>or do MSc and leave</p>	<p>PhD-candidate accepted by section salary</p> <p>start: any time as funding (=project) needs to be present</p> <p>PhD courses spread out</p>

2011: start TUDelft Grad School

motivation & goals:

1. be internationally recognizable
2. streamline & improve supervision
3. implement 1st year go/nogo
4. improve hiring process
5. offer & require Doctoral Education
6. encourage international experience & publication
7. shorten duration to 4 - 4½ years
8. provide mentor

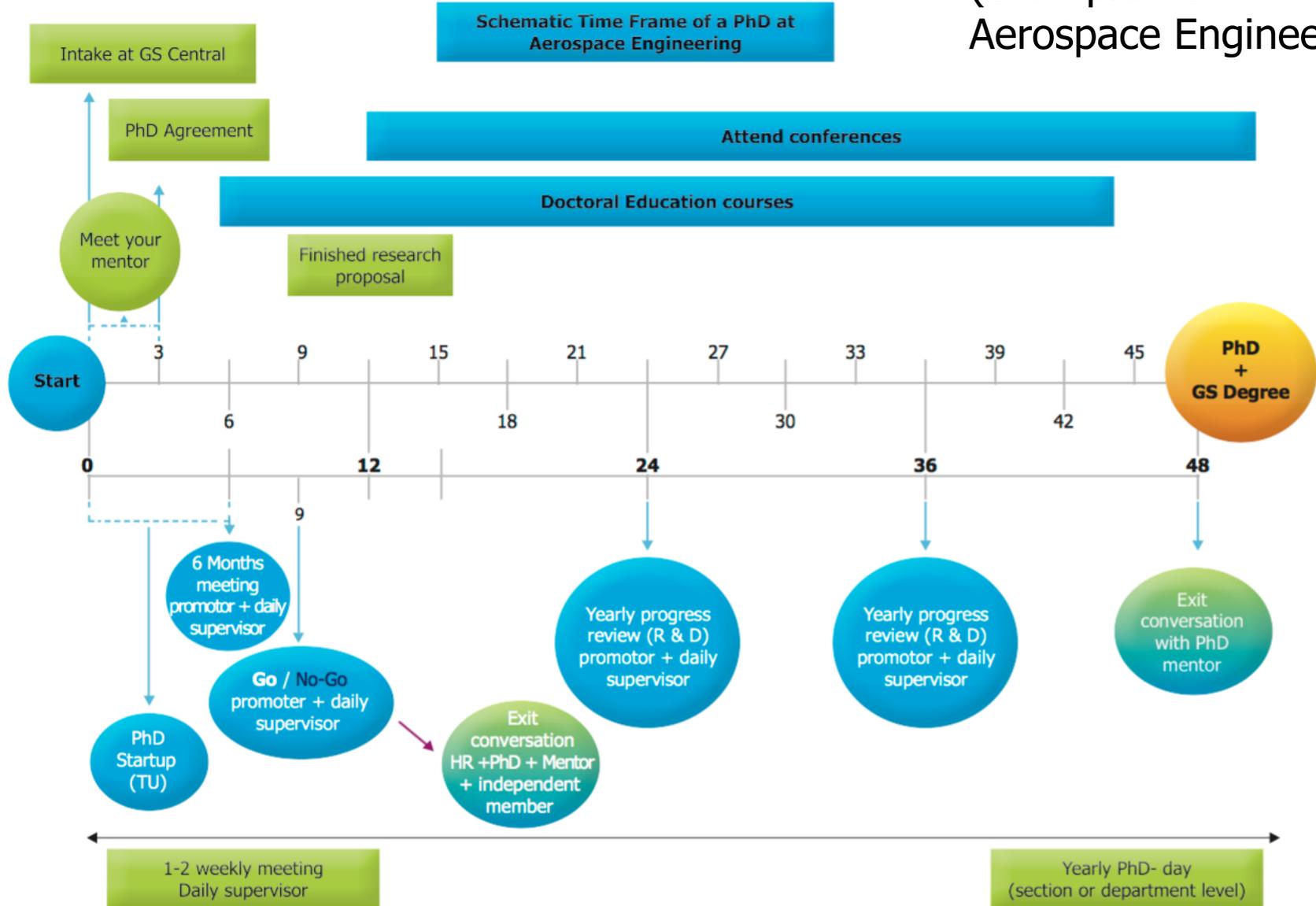


intro-movie ('slightly' over the top ...)



Schematic Time Frame of PhD process

(example from Aerospace Engineering)



Bits & Pieces

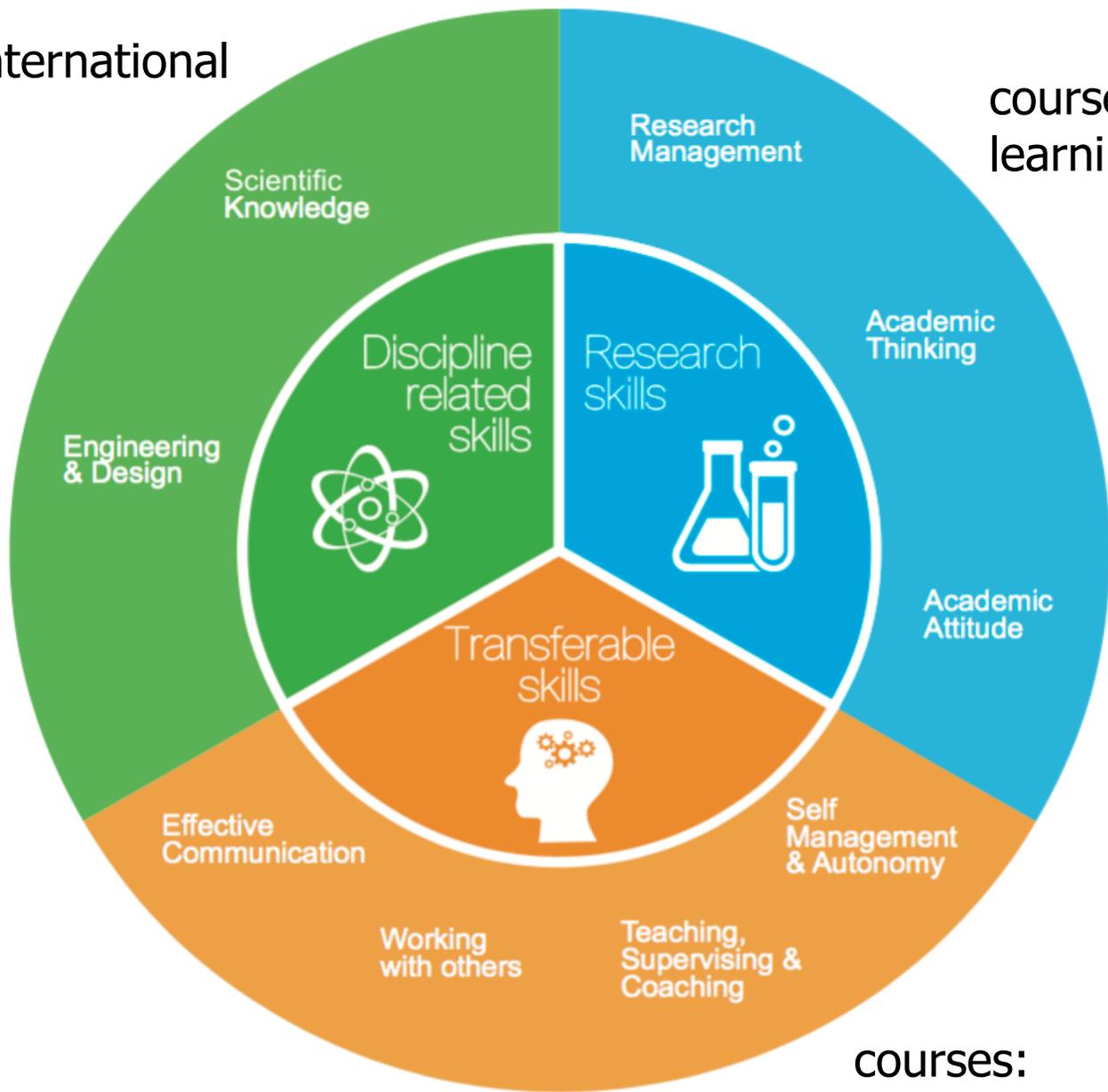
- hiring is done always with 3 PI's, at least one outside research
- within 3 month: PhD agreement = document on research plan (not carved in stone), Doct.Edu., supervision
- thesis proposal & go/nogo: committee of at least 3 PI's, at least one outside research area & supervision
- on average, less than 10% should get 'no go'

doctoral education 45 GS-points (1 GS = 8-10h)

- Discipline Related (15GS)
- Research Skills (15GS)
- Transferable Skills (15GS)

courses:
national / international

courses &
learning on the job



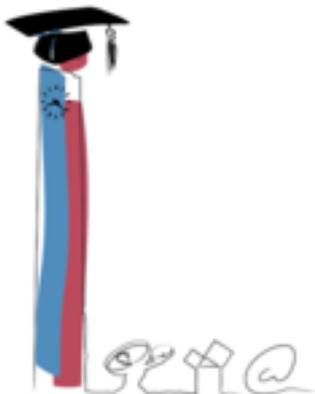
Activities	GS credits indication	Maximum nr. of times with GSC
<i>1. Scientific Presenting & interacting</i>		
Addressing a small audience	0.5	2
Addressing a major international audience	1	3
Poster presentation, small audience	0.5	2
Poster presentation, major international audience	1	3
Participation in work consultation with research partners	0.5	3
<i>2. Writing and publishing</i>		
Designing and writing a manual, instructions, etc.	1-3	1
Writing a research proposal	2-4	1
Paper review	1	2
Writing the first conference paper	1	1
Writing the first journal article	2-4	1
<i>3. Teaching & supervision</i>		
Supervising a MSc student/ Bachelor project groups (incl. correcting master thesis)	2-6	1
Teaching assistance: designing examination assignments	1	2
Teaching assistance: designing laboratory test	2-3	2
Teaching assistance: assisting in laboratory course /tutorial	1-3	1
Teaching assistance: providing technical/material support for lectures, correcting written exams	1-3	1
Peer-review & peer-learning meetings (4-6 x 0,5 day), for example as follow up of the PhD Start Up	2-3	1

Doctoral Monitoring Application (DMA)

system for organizing work flow:

- PhD agreement
- thesis proposal
- go/nogo
- yearly progress meeting
- Doct.Edu. progress
- thesis approval & entrance to thesis-defence

[Login to DMA](#)



Mentor

guidance - in case of mild conflicts or personal problems
not: psychologist
not: problem solver
not: part of the research team

Organisation

Board of Grad School @ university level

- (con)Rector Magnificus
- Directors of Faculty Grad School
- Secretary

Faculty Grad School (most keep it mean & lean)

- Director
- Secretary

Advisory Board Doctoral Education

- 5 members & secretary

Board of Appeal

- 3 members & secretary (=lawyer)

Board for Doctorates



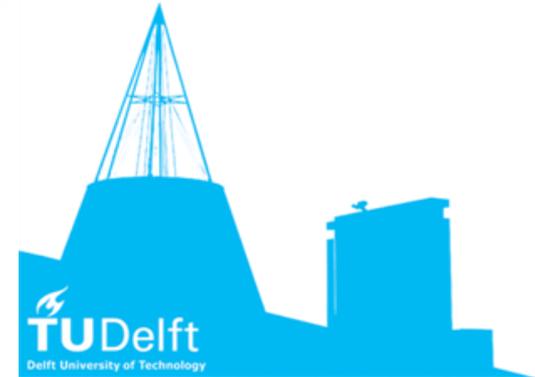
A final word about Funding

Doctoral Programmes can be funded in several ways:

1. Working at the university: Often, doctoral candidates are employed on four-year contracts at their supervisor's department, where they are expected to also spend time on teaching activities.
2. Bring your own funding: If there are no PhD positions available in your area of interest, you will have to find your own funding. This could be a scholarship or a grant.
3. Working for an employer: Employers sometimes provide financial support when their employees become doctoral candidates at TU Delft.

TO CONCLUDE TUDELFT GRADUATE SCHOOL

- puts emphasis on proper supervision
- is strict on hiring process
- enforces thesis proposal & go/nogo decision
- streamlines progress and time to completion
- requires Doctoral Education from all its PhD candidates
 - ✧ start-up meeting (mandatory)
 - ✧ next step in career (mandatory – end year 3 / start year 4)
- offers mentoring & other support
- ensures all PhD candidates can visit international
- conferences & meetings



TRIES TO BUILD A PHD COMMUNITY....