

Besluit

Equivalentie- en accreditatiebesluit met positief eindoordeel voor de opleiding European Master of Science in Photonics (master) van de faculteit Ingenieurswetenschappen en Architectuur aan de Universiteit Gent in samenwerking met de faculteit Ingenieurswetenschappen aan de Vrije Universiteit Brussel (005953)

datum

15 februari 2018

Ordeel van de accreditatieorganisatie

De Commission des Titres d'Ingénieur (CTI) heeft vastgesteld dat de opleiding European Master of Science in Photonics van de faculteit Ingenieurswetenschappen en Architectuur aan de Universiteit Gent in samenwerking met de faculteit Ingenieurswetenschappen aan de Vrije Universiteit Brussel voldoet aan de generieke kwaliteitswaarborgen.

Equivalentie- en
accreditatiebesluit
European MSc in Photonics –
Universiteit Gent

(005953)

bijlagen

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De accreditatie van de European Master in Photonics geeft de afgestudeerden van deze opleiding tevens het recht om de Franse titel *Ingénieur diplômé* te voeren. Daarnaast krijgt deze masteropleiding van CTI het label EUR-ACE Master. Zie ook bijlage 1.

Samenvatting van de beoordeling

General presentation

Ghent University is a major university in Belgium, offering courses to 41,000 students under 11 different faculties that cover the full spectrum of academic disciplines. It distinguishes itself as a socially committed and pluralistic university that is open to all students, regardless of their ideologies, political opinions or cultural or social background, and scores highly in international rankings.

The Faculty of Engineering and Architecture (FEA) is one of the 11 faculties, established by Napoleonic Decree based on the French *Corps des Ponts et Chaussées* system. It integrated Ghent University in 1835. The range of engineering specialisations has gradually increased to cover needs in industry and society.

The FEA offers a 5-year integrated programme structured according to the Bologna Accords, with a 3-year Bachelor's degree followed by a 2-year Master's programme. The faculty currently has 7 Bachelor's programmes and 17 Master's programmes mostly leading to a Bachelor of Science in Engineering and Master of Science in Engineering.

The FEA is well integrated into the University, and has the independence needed to define its own missions while taking into account the specific needs of engineering training, and to reach its objectives. Ghent University and the FEA define themselves as research-driven schools, and the FEA's education missions are based on the following principle: To educate and prepare students so that they are able to solve complex problems, based on a solid technological and scientific background, and with a readiness to adopt and develop new methods and knowledge.

The FEA aspires to train highly skilled engineers able to adapt quickly to global technological and economic changes, and contribute to the long-term socioeconomic development of Flanders and Belgium. Doctoral and postdoctoral researchers advise students during their Masters studies, bringing them into close contact with current research practices and results. The FEA staff are involved in cutting edge research and ERC and Methusalem grants are commonplace. Start-ups and spin-offs are well-developed and a longstanding tradition at Ghent University.

Changes to the institution

In 2013-2014, industrial engineering programmes (4-year degrees in Flanders) were integrated into the FEA as the result of a 7-year integration process. CTI did not examine these programmes (Bachelor and Master of Engineering Technology) under this evaluation. The language of instruction has been Dutch since 1930. However, in 2012, language legislation became less restrictive and since the 2013-2014 academic year, all engineering programmes except Architecture have been taught in English.

As part of the "Creative Knowledge Development" initiative, the FEA has created programmes available to all students that foster innovation, entrepreneurship and entrepreneurial skills.

Over the last several years, these programmes have given students the opportunity to take part in internships and gain hands-on experience. Unfortunately, this is not a widespread practice in all programmes.

The FEA has also developed a "Project track" which applies throughout the whole 5 years of programmes, but cross-disciplinary aspects still need to be improved. Several initiatives have been developed by the FEA and/or students to inform secondary students about engineering studies and careers in an effort to encourage them to enrol in engineering studies.

General analysis

Strengths of FEA

- Students appreciate the strong friendships and relations between staff and students.
- Laboratories are well recognised and of high scientific quality, managed by highly skilled scientific staff.
- Innovation and entrepreneurial skills have been strongly developed: "Student entrepreneurs" is well designed and organised.
- Project track is available for all students.
- Project team work analysis is a good initiative and could be shared between programmes.

- Pagina 3 van 7 – Student association initiatives are noteworthy. They implement real successful initiatives to create ties with industry.
- Employment opportunities are excellent for all the master's programmes.

Weaknesses of FEA

- Too few students from Belgium and from abroad with respect to the staff potential of the FEA.
- Course evaluation methodology should be examined to get even more feedback.
- Programmes taught in English do not attract enough students, promotion is necessary.
- Not enough outbound mobility, however these students could be the best publicity for the FEA.
- The role of Advisory Groups could be enhanced.
- More guidance for the students in building their career project could be of great use.
- Follow-up with alumni from each programme could be improved.

Risks

- Strategic vision of the FEA does not appear clear in particular with respect to:
- Mobility, international students and internships that are unequally developed depending on the programmes

Opportunities

- Set up multidisciplinary projects across departments or faculties in favour of crossfertilization.
- Increase the share of successful experiments and best practices such as new teaching practices.
- To attract more Belgian students, use companies to increase numbers and send more students into secondary schools.
- Send teachers for training in industry to better understand companies and strengthen ties.
- Improve coordination between the bottom-up approach used to design the programmes and learning outcomes.
- Promote English-taught programmes through marketing and branding.

Evaluation synthesis per programme

Master of science in de ingenieurswetenschappen: fotonica (Dutch – in cooperation with VUB) / European Master of Science in Photonics (in convention with Vrije Universiteit Brussel – VUB)

The goal of the European Master of Science in Photonics is to address the societal need for engineers capable of developing innovative systems in which light is used as information or an energy carrier. More particularly, the objective is to train engineers who are duly capable – both on a self-reliant basis and as a member of a team – to build, in an efficient and methodological manner, complex photonic systems, from their conception, design, analysis, implementation up to the testing of these systems.

The recommendations for each programme are as follows

Master of science in de ingenieurswetenschappen: fotonica (Dutch – in cooperation with VUB) / European Master of Science in Photonics (in convention with Vrije Universiteit Brussel – VUB)

- The programme has scientific and technical excellence objectives in the field of photonics, with a focus on devices and systems and less on uses and applications.

- Pagina 4 van 7 – The staff is competent and dedicated, with good relationships with industry.
- The programme has good international visibility, but appears as specialised when compared to other fields such as electrical or mechanical engineering.

Aanbevelingen

De NVAO onderschrijft alle aanbevelingen geformuleerd door deze accreditatieorganisatie.

Bevindingen NVAO

De NVAO verklaart het accreditatiebesluit van CTI equivalent op basis van de volgende vaststellingen:

- De buitenlandse accreditatieorganisatie geeft een positieve beoordeling van de kwaliteit van de betrokken opleidingen;
- De buitenlandse accreditatiebesluiten zijn voldoende actueel;
- De buitenlandse accreditatiebesluiten zijn gebaseerd op een openbare externe beoordeling;
- De buitenlandse accreditatieorganisatie is EQAR-geregistreerd;
- De buitenlandse accreditatieorganisatie heeft een methodologische aanpak vergelijkbaar met de Vlaamse.

Pagina 5 van 7 **Besluit¹**

betreffende het Equivalentie- en accreditatiebesluit met positief eindoordeel voor de opleiding European Master of Science in Photonics (master) van de faculteit Ingenieurswetenschappen en Architectuur aan de Universiteit Gent in samenwerking met de faculteit Ingenieurswetenschappen aan de Vrije Universiteit Brussel.

De NVAO,
Na beraadslaging,
Besluit:

Met toepassing van de Codex Hoger Onderwijs, in het bijzonder de artikel II.149, besluit de NVAO accreditatie te verlenen aan de opleiding European Master of Science in Photonics (master) georganiseerd door de faculteit Ingenieurswetenschappen en Architectuur aan de Universiteit Gent in samenwerking met de faculteit Ingenieurswetenschappen aan de Vrije Universiteit Brussel. De opleiding wordt aangeboden te Gent en te Brussel.

De accreditatie geldt, overeenkomstig de door CTI aangegeven periode van zes jaar, van 1 september 2016 tot en met 31 augustus 2022.

Den Haag, 15 februari 2018

De NVAO
Voor deze:



Marc Luwel
(bestuurder)

¹ Het ontwerp accreditatiebesluit werd aan de instelling bezorgd voor eventuele opmerkingen en bezwaren. De instelling heeft geen gebruik gemaakt van de gelegenheid om te reageren.

Pagina 6 van 7 **Bijlage 1: Basisgegevens over de instelling en de opleidingen**

Naam en adres instelling	<ul style="list-style-type: none"> – Universiteit Gent Faculteit Ingenieurswetenschappen en Architectuur J. Plateaustraat 22 B-9000 GENT <p>In samenwerking met:</p> <ul style="list-style-type: none"> – Vrije Universiteit Brussel Faculteit Ingenieurswetenschappen Pleinlaan 2 - Gebouw K B-1050 Brussel
Aard instelling	Ambtshalve geregistreerd
Naam associatie	<ul style="list-style-type: none"> – Associatie Universiteit Gent – Universitaire Associatie Brussel
Naam opleiding	European Master of Science in Photonics
Niveau en oriëntatie	Master of Science
Bijkomende titel	Burgerlijk ingenieur Ingénieur diplômé
<u>Opleidingsvarianten:</u> Afstudeerrichtingen: Studietraject voor werkstudenten:	<ul style="list-style-type: none"> – Geen – Geen
Onderwijsstaal	Engels
Studieomvang (in studiepunten)	120 studiepunten;
Studiegebied	Toegepaste wetenschappen
ISCED benaming studiegebied	07: Engineering, manufacturing and construction 071: Engineering and engineering trades

Voorzitter:

- Anne-Marie Jolly, CTI member, chair;
- Gabriel Henrist, CTI member and co-chair;
- Bernard Remaud, CTI expert and co-chair;

Leden:

- Denis Lemaître, CTI expert;
- Marie-Jo Goedert, CTI expert;
- Anne Perwuelz, CTI expert;
- Cédric Belloc, CTI international expert;
- Jean Le Quenven, CTI expert;
- Joost Walraven, CTI international expert;
- André De Herde, CTI international expert;
- Roland Vidil, CTI expert;
- Bertrand Bonte, CTI expert;
- Laurent Bédat, CTI expert;
- Jean-Louis Allard, CTI expert;
- Daniele Choueiry, CTI international expert;
- David El Baze, CTI student expert.