
Job Profile for M.Sc. BI-CE “Sustainable Construction “ („Nachhaltiger Hochbau“)

1.1 Description

The construction industry is facing an enormous challenge. Growing influences from the economy and ecology will increasingly change the technical framework conditions of buildings. Further innovations in the building construction sector are needed to solve the typical issues. At the same time, the basic requirements of our society with regard to building must not be ignored. In order to fulfil these requirements, future engineers must be able to draw on a wide range of specialist skills and be prepared to act in a solution-oriented manner.

The job profile of “Sustainable Construction” includes numerous areas of knowledge in civil engineering and architecture, which provide a comprehensive qualification for mastering the upcoming tasks involved in building construction. In addition to constructive content, this job profile offers in-depth content in the area of sustainability, design, building physics as well as management and administration in the planning, construction, operation and dismantling or revitalization of buildings. This profession therefore offers a comprehensive qualification for the majority of upcoming construction tasks in building construction in times of climate change. Graduates of this career profile will be able to:

- Develop, plan, construct projects independently and create plans from them
- Create and evaluate sustainability analyses
- Develop project details
- Determine, monitor and condition building physics spatial situations
- Develop detailed solutions based on building physics
- Administer and manage the construction and operation of projects

Examples of professional activities are designers/planners, project developers and site managers in engineering or architectural offices as well as authorities and building physicists in typical specialist offices.

1.2 Module Recommendation

Basic research modules totalling 36 CP (12 CP per research subject)

Research subject "Building Construction and Building Physics"

- Konstruktives Gestalten (13-D1-M001), 6 CP
- Advanced Building Physics (13-D3-M001), 6 CP

Research subject "Construction Management"

- Baubetrieb IV (13-A0-M002), 6 CP
- Construction Technologies and Management III (13-A0-M001), 6 CP

Research subject "Materials Technology and Building Maintenance"

- Bauschäden und Bauwerksanalyse (13-D3-M005), 6 CP
- Special Concretes (13-D3-M004), 6 CP

Research specialization modules amounting to 12 CP

Research subject "Building Construction and Building Physics"

- Green Building Design I (13-D1-M007), 6 CP
- Bauen im Bestand – Energetische Sanierung (13-D3-M015), 6 CP

Modules from the subject-related elective area amounting to 36 CP

Below you will find a selection of modules with a total of 24 CP for the subject related elective area, adapted to the "Sustainable Construction" job profile. Please note that a total of 36 CP must be completed in the specialist elective area.

- Green Building Design II (13-D1-M008), 6 CP
- Facade Technology I (13-M4-M002), 6 CP or Facade Technology II (13-M4-M003), 6 CP
- Bauen im Bestand – Verfahrenstechnik und Ökonomie (13-A0-M006), 6 CP

1.3 Further information on the job profile:

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1.4 Advice on the job profile:

Contact person at the Institute of Structural Design and Building Construction:

Prof. Dipl.-Ing. Architect Stefan Schäfer

Mail: sts@kgbauko.tu-darmstadt.de

Phone: +49 (0)6151 16 21380

Contact person at the Institute of Construction and Building Materials:

Prof. Dr Prof. Dr. ir E. A. B. Koenders

Mail: koenders@wib.tu-darmstadt.de

Phone: +49 (0)6151-16-22210