Smart Solutions Semester

SPRING 2026 - 2027

Info Learning Communities and participating study programmes



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Introduction

During the Smart Solutions Semester, interdisciplinary projects are carried out within a Learning Community. The purpose of a Learning Community is to systematically develop and leverage knowledge around relevant themes by sustainably connecting education, research, and professional practice.

In this document, you will find more information about what students from the participating programmes can contribute to your issue. Also, there is an explanation for each Learning Community about the theme that is emphasized, the language used (NL or ENG) if international students are present and the programmes requested.

Which study programmes are participating?

- Applied Computer Science (TI)
- Applied Physics (TN)
- Archaeology (ARC)
- Biology & Medical Laboratory Research (BML)
- Biomechanical Engineering (BE)
- Business Management Studies (BDK)
- Chemical Engineering (CT)
- Chemistry (C)
- Electrical and Electronic Engineering (E)
- Entrepreneurship and Retail Management (ORM)
- Facility Management (FM)
- Fashion & Textile Technologies (FTT)
- Forensic Science (FO)
- Health & Applied Technology (GT)
- Industrial Design Engineering (IPO)
- Industrial Engineering & Management (TBK)
- International Business (IB)
- Marketing (CE)
- Mechatronics (MT)
- Mechanical Engineering (WTB)
- Nursing (VPK)
- Physiotherapy (FYS)
- Tourism Management (TM)

Learning Community	Content	Study Programmes
01. Technology, Health and Care (NL, Enschede)	In this Learning Community, we work on building bridges between end-users of technology, care and welfare organizations, governments, companies and knowledge institutions. The aim of this community is to achieve successful transformation and implementation of technology in the care and welfare domains. In doing so, we look at market-ready technologies that emphasize working and living. To this end, we use action research and co-creation so that the citizen, professional or client using technology is central.	IPO/BML/FYS/GT/VPK/ CE/FM
03. Design to Meet and Move (NL, Deventer)	Care is increasingly moving from institutions with professionals to neighbourhoods and citizens. We expect people to live longer at home and live healthier lives, but that does not happen overnight. This community brings together projects that focus on using and studying the living environment to promote citizens' health. The projects take place in the neighborhood and are designed for students and clients who want to get people moving.	FYS/VPK/BDK/CE/FM
06. Value-Based Healthcare for Society (NL, Enschede)	Creating value for society requires more than good care alone. It calls for professionals who reflect on what health truly means for individuals and communities, and on how care and well-being contribute to a just and sustainable society. Themes such as prevention, health inequality, sustainability, and innovative entrepreneurship come together in projects that address current societal challenges. The community works based on relevant Sustainable Development Goals and offers students from diverse study programs the opportunity to contribute their own perspectives and collaboratively develop meaningful solutions.	FYS/VPK/BDK/CE/FM
07. Interprofessional Collaboration in Healthcare (NL, Enschede)	Complex challenges in care and well-being can rarely be solved from a single discipline. This Learning Community brings together students from different study programs to learn how to collaborate effectively in professional contexts where multiple areas of expertise are required. Not as theory, but in practice: working on real challenges with real partners, while actively contributing to interprofessional collaboration in healthcare.	FYS/VPK
08. Technology and Data-Driven Solutions in Healthcare and Sport (NL, Enschede)	Technology and data are transforming the way we work on health and sports performance. However, technology alone is not enough: it requires professionals who understand how to use data meaningfully, how to implement technological solutions in practice, and which ethical and organizational issues need to be considered. This Learning Community brings students together to work interdisciplinarily on current challenges at the intersection of technology, data, and health. From AI and e-health to measurement technology in rehabilitation and sports performance, students work on concrete applications and develop both technological and professional skills that align with the practice of tomorrow.	TI/BE/FYS/GT/VPK/CE

Learning Community	Content	Study Programmes
10. Stories and Images of the Past (NL, Deventer)	The past is full of stories and images. These stories can not only teach us something about life in the past, but they can also inspire tourism, spatial planning or teach us lessons about the future. Students in this Learning Community will contribute to sharing stories or creating visualisations about or from the past.	ARC/BDK/CE/FM/TM
11. Grounded (NL, Deventer)	Grounded aims to develop data, methods and technologies for a coherent approach to living environments, with a specific focus on the role of soil and subsoil. Here, the focus is not only on sensors, data, analysis and visualization, but also on societal relevance. How can we visualize or investigate everything that is in the soil? This could involve pipes, archaeology, crimes, or infrastructure.	FO/ARC/BDK
13. Proces Innovation (NL, Enschede)	This Learning Community focuses on innovating processes in the broadest sense of the word. Examples include logistics within healthcare institutions, hygiene in the food industry, or technical innovations in logistics services. The basic assignment stems from the need to improve a process, and the way in which this is done can be determined by the various study programs. It is precisely because of this broad approach that it is interesting for a wide range of study programs to participate in this LC.	TBK/BDK/FM
20. Biomechanics and Ergonomics (ENG, Enschede)	In the Learning Community **Biomechanics and Ergonomics,** students work together on **technical and design-related** challenges focused on human movement, physical load, and health. By combining knowledge from engineering, anatomy, physiology, and product development, students concentrate on measuring, analyzing, and improving human movement and work environments. Projects within this learning community range from designing ergonomic aids and developing sensor technology to modeling forces acting on the human body. Through practice-oriented research and interdisciplinary collaboration, students work on smart solutions that contribute to safe, efficient, and healthy movement—across healthcare, sports, and work environments.	IPO/MT/WTB/BE/FO/ FYS
21. Applications in Water Technology (ENG, Enschede)	The availability of sufficient water of the right quality in the right place at the right time is one of the greatest challenges of our time. Access to clean and safe water is critical for public health, ecosystems and economic development. Worldwide, however, there is great variation in water quality and availability, partly due to uneven or inefficient water treatment practices, but also due to increasing pollution (PFAS and drug residues), climate change and inefficient water use. The International Water Technology (IWT) research group focuses on the integral connection between water, energy, food and living environment, where international cooperation is indispensable. By combining expertise in the fields of water treatment, quality monitoring & control, data science, circular business models and awareness, IWT works on tangible solutions with social and ecological impact - aimed at realizing a future-proof, sustainable (water) world.	TN/BML/C/CT/FO/TBK/ CE
22. Robotics and Drones (ENG, Enschede)	Robotics and drones are a rapidly evolving topic, with assignments from the Smart Mechatronics and Robotics (SMART) lectureship. Robotics development is expanding into diverse applications, such as drones for inspection, package delivery, firefighting, wind turbine maintenance, autonomous ground robots in industries, automation of manufacturing processes, and robots for surveillance. Sensor technology plays a crucial role, with applications such as thermal cameras for fire detection, vision with machine learning for classification, and sensor fusion for advanced object detection. High-tech assignments offer the opportunity to contribute to these innovations and invent new applications.	E/MT/TI/WTB

Learning Community	Content	Study Programmes
23. Forensic Research and Innovation (ENG, Enschede)	As the name suggests, this Learning Community focuses on research and innovation within the forensic field. This includes areas such as crime prevention and improving the safety of our environment and animal welfare. The challenges addressed are highly diverse but often focus on the detection of traces (such as explosives and fingerprints), the development of new work protocols and techniques (for example, non-verbal interview techniques), the sustainability of existing techniques, or conducting semi-fundamental research (such as secondary effects of fire) within the forensic domain.	TN/BML/C/FO/ARC
24. Nano Technology and Materials (ENG, Enschede)	Within the Learning Community Nano Technology and Materials, students work on innovative materials and applications at the nano- and molecular scale. The focus is on chemical materials synthesis, nanostructures, and new functional materials that can be applied in, among other areas, chip technology, sensors, and advanced manufacturing techniques. Through collaboration with the research group Applied Nanotechnology, students explore how materials can be designed, analyzed, and applied at the molecular level. Examples include projects on nanomaterials for microelectronics, smart polymers, and new composites with specific functional properties.	E/TI/BML/CT/FO/IB
25. Energy Transition (ENG, Enschede)	Design the future of energy! A Learning Community for students who are fascinated by the power of innovation in energy and who want to contribute to a more sustainable world. They work at the forefront of technological progress—from developing groundbreaking solutions for renewable energy sources to designing smart grids for efficient energy use. Here, students are given the opportunity to turn their ideas into reality. The semester focuses on broadening knowledge, collaborating with industry experts, and making an impact on one of the most urgent challenges of our time.	E/TN/WTB/BML/C/CT/TBK/FM
27. Industrial Products and Processes (ENG, Enschede)	Within this Learning Community we work on challenges from the technical field in a very broad sense. The assignments in the field of (re)designing, (re)developing, optimizing, prototyping and managing specific products, machines, installations or processes can originate from the manufacturing industry, engineering firms, or non-profit and government institutions. Work and topics cover a wide range, ranging from material and component choices, detailed calculations and drawings, automation and process control, energy and resource utilization, ease of use, and aesthetics. Examples include the design of a self-propelled agricultural implement, optimization of energy and raw material flows in a food industry, or modifications to manufacturing and assembly processes. Students from various technical disciplines work on these practical assignments from business and social fields.	IPO/MT/TI/WTB/TBK/CE

Learning Community	Content	Study Programmes
37. Sustainable and Functional Textiles (ENG, Enschede)	In a world where sustainability and environmental awareness are becoming increasingly important, it is essential that our students are well prepared for the challenges of tomorrow. The Learning Community Sustainable and Functional Textiles offers an inspiring environment in which students can share their passion for the environment and collaborate on innovative solutions. Students work closely with lecturers and experts from industry and research groups, creating a fertile breeding ground for innovation and creativity. They engage in real-life projects that have a positive impact on the environment, such as recycling old clothing, developing new materials, and much more. Let's work together to build a greener, more sustainable world!	FTT/C/FYS/IB/CE/ ORM
40. Value Creation in Sports (NL, Deventer)	This Learning Community focuses on challenging business opportunity issues in sports or sports-related industries. Students work with the clients to create new, or rethink existing, value propositions for specific target groups and their ever-evolving customer needs incorporating economic, social and environmental values.	FTT/FYS/BDK/CE/TM
41. Value Creation in Retail (NL, Enschede)	This Learning Community focuses on challenging issues relating to the future of retail(er). We focus on developing sustainable and innovative solutions for the retail sector, incorporating economic, social and environmental values. Retail plays a central role in creating value for consumers and at the same time can be an important link in broader societal trends, such as promoting sustainable consumption. We also explore the role of retail in relation to other sectors, such as the leisure economy. How can retailers respond to the changing wants and needs of consumers, for example in their leisure activities? We consider how the shopping experience can be enriched by smart technologies, attractive physical environments and innovative concepts that play a role in both retail and leisure activities. Issues around the use of data and technology in retail are also addressed, as well as the impact of retail on sustainable consumer behaviour, such as facilitating reuse and repair where relevant.	TBK/BDK/CE/ORM/FM/ TM
42. DataScience & AI (ENG, Enschede)	In this Learning Community, students work on current real-world challenges in the field of Data Science and Artificial Intelligence. Together with lecturers, researchers, and external professionals, students explore the possibilities of data and AI to develop smart solutions. Students translate data into insights and applications that help organizations make better-informed decisions, improve processes, or develop new products and services. Along the way, attention is paid to impact, feasibility, and the responsible use of AI in practice.	TI/TBK/IB/CE/ORM/FM
43. DataScience & Sports Innovation (NL, Enschede)	In this Learning Community, students work on current real-world challenges in the field of Data Science in sports and sports-related industries. Together with lecturers, researchers, and external professionals, students explore how data can be used to develop innovative solutions. Students transform data into insights and practical applications that help organizations make more informed decisions, improve processes, and develop new products and services.	TI/FYS/TBK/BDK/CE/ TM

Learning Community	Content	Study Programmes
44. Impact Makers (NL, Deventer)	In a rapidly changing world with complex challenges, creating impact is the key to success. Creating impact means contributing to positive change: socially, environmentally, and economically.As drivers of change, Impact Makers help businesses and organizations respond to the most important developments, enabling them to remain relevant and contribute to a sustainable and livable world for both present and future generations.In this Learning Community, students work on current business and entrepreneurial challenges that are focused on contributing to positive change. Together with lecturers, researchers, and external professionals, students explore how organizations can create societal, social, and environmental value in a responsible and sustainable way.	ARC/BDK/CE/ORM/FM/TM
50. Sport, Business, and Health (NL, Enschede)	Business, Health & Sport Innovation Lab: the place for innovation and collaboration. The Innovation Lab offers a dynamic learning and working environment where students, lecturers and professionals collaborate on issues at the intersection of business, health and sport. Whether you are a student seeking practical experience, a client with a complex challenge, or simply interested in innovative solutions, the Innovation Lab brings together diverse disciplines to create impactful and forward-looking results. Discover how experimentation and interdisciplinary collaboration lead to innovative answers to today's and tomorrow's challenges.	FYS/VPK/BDK/CE
51. Sustainable Twente (NL, Enschede)	Would you like to make a real contribution to a sustainable future? In this Learning Community, you will work on projects that promote circularity and sustainability in the Twente region. Together with clients such as municipalities and local entrepreneurs, you will tackle challenges that pave the way for greener and smarter solutions.From designing circular business models to developing sustainable innovations, you will help shape initiatives that create a lasting positive impact on our environment. You will collaborate with students from different disciplines, allowing you not only to deepen your knowledge but also to develop valuable skills for the future.Are you ready to help build a more sustainable Twente? Join this inspiring community and make a difference!	TBK/BDK/CE/ORM/FM
60. Innovative Business Opportunities (ENG, Enschede)	Become part of a dynamic community where innovation drives opportunity. Work alongside students, experts, and company leaders to explore the key trends transforming business today, from AI and digital strategy to sustainability, inclusive leadership, market innovation, and future-proof business models. Develop the mindset and capabilities to turn emerging challenges into opportunities for innovation and sustainable growth.	TBK/IB/CE/ORM/TM
61. Organizing Multiple Value Creation in Circular Economy (ENG, Deventer)	More and more companies want to actively contribute to a healthier, fairer world. They're looking beyond short-term profits. Multiple Value Creation is a business concept for organizations that believe in Business as a Force for Good. In this Learning Community, you'll collaborate with forward-thinking companies and institutions that are leading the way in transforming their business models, towards socially and ecologically responsible practices. You'll be part of a movement that's not just about making money, but about making impact.	VPK/IB/CE/ORM/TM
70. Liveable City Deventer (NL, Deventer)	How can we make Deventer a city that is not only sustainable but also contributes to the health and well-being of its inhabitants (e.g. through spatial interventions, getting people to move, creating pleasant places). And this in cooperation with entrepreneurs, residents, government and many other parties in Deventer. Together we make the city.	FYS/ARC/CE/ORM/FM/TM

Learning Community	Content	Study Programmes
71. Smart Hospitality (ENG, Deventer)	In the Smart Hospitality Learning Community, students, lecturers, researchers, and industry professionals work closely together on real-world, complex challenges. The approach is interdisciplinary, future-focused, and driven by impact. We combine hospitality and technology to create smart, sustainable solutions that benefit both organizations and society.But what is Smart Hospitality? Smart Hospitality focuses on designing, researching, and evaluating technological innovations that enhance hospitality, not only within the traditional hospitality sector (such as hotels, restaurants, and tourism), but also in other sectors where hospitality is a core value, including retail, healthcare, municipalities, and financial institutions. Examples include smart applications that improve the guest experience while generating valuable data to optimize processes and increase customer value.Examples of previous projects completed by students include: • An **augmented reality city tour** for a municipality. • A **virtual reality experience** and podcast about local history for a museum. • An **AI toolbox and user guide** for an event management organization. • An **HR analytics dashboard** for a hotel chain. • A **chatbot** designed to improve the guest journey for a wellness organization.	IB/CE/ORM/FM/TM
72. Sense of Place (ENG, Deventer)	Discover the power of “Sense of Place”! A place is more than just a destination on a map. 'Sense of Place' is about the essence of a place, where not the visitor changes the destination, but the destination changes the visitor. The place creates meaningful connection through personal experiences, cultural traditions and shared activities. Key characteristics are diverse, small-scale, local, interactive/interdisciplinary and inclusive. The concept of “Sense of Place” consistently emphasizes its multidimensional, dynamic and complex nature, reflecting both individual and collective relationships with specific destinations. A bond that visitors and/or communities build with a place. A bond that gives identity and creates connection between place and visitor.	ARC/IB/CE/ORM/TM
73. Smart & Sustainable Accommodations (NL, Deventer)	In a rapidly changing world where sustainability and technology continuously demand attention, there is a growing awareness that organizations themselves can make a difference. Through technology, they can contribute to a more sustainable future. When setting objectives, SMART stands for Specific, Measurable, Achievable, Realistic, and Time-bound results. This is also the foundation of the Learning Community Smart & Sustainable Accommodations. Using technology, we develop practical and responsible solutions for the spaces around us.Whether it concerns an office building, hospital, holiday resort, hotel, or event venue, the need to design and manage spaces in a smarter and more sustainable way is increasing everywhere. In this context, smart also means intelligent. How can technology be used to support future-proof construction, renovation, furnishing, and facility management across a wide range of organisations? We look forward to taking on this challenge together with you!	FTT/CE/FM/TM

Applied Computer Science

Coordinator

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About Applied Computer Science

Applied Computer Science students are software engineers with knowledge of hardware. They can programme well in a structured manner using a range of languages in addition to good electronic engineering fundamentals: they can design and build simple circuits and can conduct measurements. In addition, they have solid mathematical knowledge to be able to do digital signal processing or control systems, for example.

Applied Computer Science in the Smart Solutions Semester

Areas of application are: robotics, embedded systems, Internet of Things, networking and operating systems. In other words, all equipment and systems where software is involved.

Applied Physics

Coordinator

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About Applied Physics

Applied Physics is a programme in which we train students to be physical researchers in the broadest sense of the word. The subject-related core tasks focussed on are:

- Develop/apply: building and developing a measurement setup or data acquisition method;
- Experimental research: making measurements and processing data;
- Model-based research: establishing and validating a physical phenomenon and interpreting the results.

Applied Physics in the Smart Solutions Semester

In general, Applied Physics students can contribute the following to projects:

- Finding and implementing different sensors;
- setting up methods of measurement;
- Measuring and processing data;
- Provide a physically correct basis to simulations;
- Modeling physical phenomena.

Archaeology

Coordinator

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About archaeology

The archaeology degree programme is unique. We are the only non research university archaeology programme in the Netherlands, attracting students from throughout the country. A (bachelor) archaeologist is a practical researcher, telling the story of the past based on archaeological finds and traces in the landscape. Archaeological fieldwork forms the core of the degree programme. Digital work is a spearhead within the programme. The attention to (innovative) digital techniques is in line with developments in the professional field and the technical nature of the programme. Examples include drones, GIS, databases, geophysical measurement techniques, (close range) remote sensing and surveying techniques. In addition, the program focuses on the (digital) presentation and visualisation (for example with 2D and 3D reconstructions or scans) of heritage for both the public and other workers in the profession. Conservation and management of archeology and heritage are anchored in policy and legislation but can also provide inspiration for spatial plans and issues.

Archaeology in the Smart Solutions Semester

Archaeology students can contribute to the areas of:

- Soil and subsoil;
- Advanced Forensic Technology;
- Heritage and tourism;
- Geographic Information (GIS);
- Visualisation and presentation of heritage
- Gaming and Heritage;
- Sustainable Development
- Regional development;
- Heritage and history in education;

Biology & Medical Laboratory Research

Coordinator

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About Biology & Medical Laboratory Research

In the Biology and Medical Laboratory Research program, students learn to develop into professionals who independently or in teams conduct research to solve problems in the biological and/or medical field. Subject areas include:

- Research: The focus here is on carrying out and developing innovative techniques within healthcare.
- Diagnostics: the student focuses on the research to make a diagnosis or to follow the course of a therapy.
- Nanotechnology this relatively young field of study forms a bridge between physics, nano-physics, and medical research.

Biology & Medical Laboratory Research in the Smart Solutions Semester

In general terms, the students can contribute to projects related to:

- Healthcare services
- Food industry;
- Epidemiology;
- Forensic Science;
- Biotechnology;
- Antibacterial materials.

Biomechanical Engineering

Coördinator

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About Biomechanical Engineering

Students of the Biomechanical Engineering (BME) programme have extensive knowledge of designing, calculating, manufacturing, and technically optimizing products and devices that support the human body. This involves translating a client's or patient's question or problem into a technical solution. Based on conceptual designs, biomechanical engineers ultimately arrive at a final product design.

Biomechanical Engineering in the Smart Solutions Semester

Students in the Biomechanical Engineering (BME) programme can contribute to a Smart Solutions project through activities such as designing or optimizing products, overseeing production, and selecting appropriate materials. In addition, students can contribute by automating processes, designing assistive devices for the human body, or performing cost calculations for products or constructions.

Specializations:

- Design and construction
- Materials science
- Biomechanics
- Automation

Business management studies

Coordinator

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About Business management studies

The Business management studies programme teaches students to look at organisations with a broad vision, continuously with improvement in mind. The learn how companies are composed and how business management issues can be solved by looking at different fields of study. Through good analyses and creative ideas they learn how organisations can stay ahead of the competition. Business experts have an entrepreneurial attitude!

Business Administration in the Smart Solutions Semester

Business Administration students know how to market an innovation creatively and successfully. Added value lies, for example, in the field of market research, finance and legal analysis. Business Administration students understand the dynamics in an organisation (or project team) and can anticipate this. They make connections between technical innovation, the organization itself (HR, quality assurance), and commerce. They can also contribute in the field of project management, process analysis and operations management.

Chemical Engineering

Coordinator

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About Chemical Engineering

Chemical Engineering students learn to develop as professionals who carry out research and/ or develop products/processes in the field of Chemical Engineering. Areas include:

- Process technology: the application and improvement of heat and mass transfer processes and reactors;
- Materials technology: the production and development of (new) materials, finding of new applications and the combination of material properties is composites;
- Water and food technology: the purification and preparation of water, the large-scale production of food (supplements);
- Design: the development of industrial processes by efficient switching of process equipment or integrating processes.

Chemical Engineering in the Smart Solutions Semester

students can contribute to projects related to:

- (re-) use of materials and raw materials;
- Water and food industry;
- Polymers/ coatings/ textiles;
- Membranes and sensors for conducting water research;
- Smart materials;
- Nanotechnology (micro-processes);
- Industrial safety.

Chemistry

Coordinator

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About Chemistry

Chemistry students learn to develop as reflective professionals who can conduct research both independently or in a team to solve problems in the field of chemistry. Subject areas include:

- Analytic Chemistry: the emphasis here is on developing methods for conducting analyses with (specialised) equipment.
- Organic Chemistry: the synthesis and analysis of organic compounds such as medicines, flavourings, and more environmentally friendly materials.
- Polymer Chemistry: the synthesis of plastics (coatings, resins, additives, 3D printing) or (bio) plastics.
- Physical Chemistry: the application of physical methods to the field of Chemistry to understand and describe properties of substances and their changes.

Chemistry in the Smart Solutions Semester

In general terms, the students can contribute to projects related to:

- Pharmaceutical industry;
- Food industry;
- Polymers/ coatings;
- Forensic Science;
- Membranes and sensors for water research;
- Smart materials;
- Nanotechnology (modification of nano-particles, sensors)

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Electrical and Electronic Engineering

Coordinator

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About Electrical and Electronic Engineering

Electrical and Electronic Engineering students are equipped with a broad foundational knowledge of Engineering (including the application of AI). They can carry out research and create designs to solve a wide range of engineering problems. There are two Specialisations:

- Information Engineering (EIE);
- Electrical Engineering & Energy Transition (EEET).
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Electrical and Electronic Engineering in the Smart Solutions Semester

EIE students are specialised in

- PCB design
- embedded systems
- micro-controllers.

EEET students work with

- PLC's
- analogue electronics
- related power issues

Students of both specialisations can translate a list of customer requirements into a real end product.

Entrepreneurship & Retail Management

Coordinator

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About Entrepreneurship & Retail Management (O&RM)

O&RM trains the entrepreneur and the entrepreneurial managers who connect social needs and technological innovations to create new business concepts for (new) companies.

Entrepreneurship & Retail Management in the Smart Solutions Semester

O&RM students can act as project leaders, take care of communication for the entire project, and conduct applied research into trends and developments, market needs and opportunities, and product/service concepts, among other things. Specific assignments that can be carried out include the following:

- draw up a marketing plan (or part of it; market, target group, competition or internal/ external analysis);
- conduct desk research;
- write a business plan
- Come up with (innovative) potential products and how they can be brought to market;
- conduct feasibility studies;
- apply canvas model (also for the project itself);
- develop sales strategies for a product or service;
- set up purchasing;
- map out the customer journey;
- create personas.

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Facility Management

Coordinator

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About Facility Management

Facility management is the position that aims to provide employees within organisations with an integrated working environment, thus contributing to the success of the organisation. This includes aspects such as: housing, energy, sustainability, ICT support, cleaning, company catering and safety. The facility manager is responsible for an optimal working, living and care environment, both physically and virtually. It has a supporting role, just like HR, Finance, Marketing, ICT, Purchasing, Communication, etc.

Facility Management in the Smart Solutions Semester

On the one hand, students from this programme are generalists with a broad business knowledge. On the other hand, they have knowledge of supporting processes and services. In this, hospitality and customer orientation are always important principles. Above all, FM students are "thinkers with drive" and have experience in working in turbulent business environments and multi-disciplinary (project) teams. They can contribute to projects in the following areas: project management, thinking from a process perspective (optimisation), innovations from a customer perspective, conducting research into customer/user requirements.

Fashion and Textile Technologies

Coordinator

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About Fashion and Textile Technologies

F&TT students purchase products and develop materials at production companies at home and abroad. Knowledge of trends combined with applications of new (sustainable) materials allow new innovative products. 'Is it possible to charge your smart phone with sports apparel?' and 'What material & fit requirements are there for firefighter clothing?" are examples of possible real-life questions that students have to deal with. Within the programme, 3 main themes are addressed; Material (technology), Collection (creativity) and Buying (commercial).

Fashion and Textile Technologies in the Smart Solutions Semester

F&TT students have a wide knowledge of the quality of (textile) materials and different clothing construction techniques and understand the specific steps and stakeholders in the clothing and textile industry supply chain. Students can easily cross over to applications of textiles in other sectors, e.g. care, construction or Forensic Science.

Forensic Science

Coordinator

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About Forensic Science

Students carry out research from a natural sciences and technical perspective. This research is implemented in a variety of incidents. From criminal offenses, fire, accidents and fraud to damage due to failure of products, materials, constructions or human actions.

Forensic Science in the Smart Solutions Semester

Students can be deployed as damage specialists, fire safety advisers, traffic accident analysts, forensic specialists, digital investigators, fire researchers and policy officers.

Health & Applied Technology

Coordinator

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About Health & Applied Technology

In the Health & Applied Technology study path, students are widely deployable as HBO Nurses, but also as a leaders in the field of innovative care technologies. The focus is on improving and/ or implementing technological innovations for the quality of care (for example, robotics, home automation, eHealth, serious games, medical technology). Students can be widely deployed as HBO Nurses in diverse professional fields such as:

- Mental healthcare;
- Cognitive care;
- Social healthcare
- General healthcare service;
- Care technology (including (further) development and evaluatoin).

Health & Applied Technology in the Smart Solutions Semester

Health & Applied Technology students can be deployed in projects where the focus is on:

- Providing integrated care in the physical, psychological, functional and social areas.
- Promoting and supporting the health of target groups (health promotion/ prevention).
- Bringing about (technological) innovations in healthcare (aimed at technology, students can delve deeper into, provide information and participate in improvement processes and implementation of medical technology).
- Carry out and apply research to improve the quality of care.

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Industrial Design Engineering

Coordinator

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About Industrial Design Engineering

The Industrial Product Designer knows how to design an industrially manufactured product that meets the requirements of the customer. The focus is on research and design of user friendly consumer products and professional products, with a feel for ecologically acceptable solutions. The study is layered in six study areas, each of increasing complexity.

1) Design Engineering: integral approach to product development
2) Visualisation: Solid Works and drawing as a medium of communication
3) Materialisation: construction, material selection, process selection
4) Applied Physics: mechanical properties of materials, heat transfer, electronic devices
5) User-oriented research: ergonomics (usability studies), feasibility studies on the product market, innovation
6) Professional and personal development: self-reflecting practitioner, capacity to learn independently.

Industrial Design Engineering in the Smart Solutions Semester

the Smart Solutions Semester is aimed at research and co-operative design. The Industrial Design Engineer develops new innovative products through research, generation of ideas, concept development, materialisation and ultimately engineering. Usability, technical feasibility, economic feasibility and attractive design are the results of a typical development process.

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Industrial Engineering & Management

Coordinator

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About Industrial Engineering & Management

The Industrial Engineering & Management programme is a special combination of technology and management, evaluated as one of the top education programmes by the Keuzegids HBO 2020 (study guide to university of applied sciences). Students learn to design company processes and improve and develop themselves widely. Experience is gained in, for example, the manufacturing industry, in the area of product development process, materials and fabrication and assembly techniques. Furthermore, there is attention for the management of operations and realisation of innovations.

Industrial Engineering & Management in the Smart Solutions Semester

Industrial Engineering & Management students are equipped with a product-oriented approach to research and management skills. They discover creative and innovative possibilities and develop these into advice. They also take into account how the various parties in the supply chain can be included in improvement processes.

International Business

Coordinator

Marleen van Nuil (h.m.vannuil@saxion.nl)

About International Business

Our students are managers of the future in international organisations. With a strong focus on "conscious business" we teach our (international) students how they can make a difference in companies in the region and far beyond. From day one, students are exposed to company issues in small groups and learn how to provide companies with advice on how to grow and improve. Due to the international character and participation of students from an average of 35 countries, the programme is completely taught in English.

International Business in the Smart Solutions Semester

IB students have a broad range of interests and go on to work in both profit as well as non-profit organisations. Through their knowledge of language, cultural sensitivity and specialisations in the areas of entrepreneurship, technology and innovation, they can advise companies, integrally in the following domains which in addition to conscious business, are core to the programme:

- Marketing & Sales;
- Management & Organisation;
- Supply Chain Management;
- Finance & Accounting.

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Marketing

Coordinator

Ruben Timmers (r.a.timmers@saxion.nl)

About Marketing

Marketing (CE) students are trained to be marketing and sales specialists. They create value for customers in both physical and online environments. Commercial specialists always think from the customer's needs in relation to the values of their own organisation. On a strategic level, they create distinctive and meaningful strategies. On a tactical level, they know how to implement these strategies in the organisation and the market. On an operational level, they always act from the strategic point of view in order to create value for customers.

Marketing in the Smart Solutions Semester

Within the project, the CE students can contribute to realizing ambitions and/or solving problems in the field of:

- creating and optimizing business models
- better matching of products and services to customer needs
- answering omnichannel questions
- solving marketing communication and positioning issues
- achieving turnover and margin targets

Mechatronics

Coordinator

Lars Koens (l.a.koens@saxion.nl)

About Mechatronics

How do you implement robots in operations? And how do you ensure that they can place things with extreme precision? This is what is addressed in the Mechatronics programme. Students go on a journey of discovery in the world of robots, smart tools and innovative machines.

Mechatronics in the Smart Solutions Semester

Students can set up and carry out the necessary research into the applicability of new technologies and transform it into a design (system engineering). They can set up and conduct testing regimes (for components to systems), in which the test systems are also realised to meet requirements. Students integrate partial systems from different disciplines to a working whole with the help of simulations and tests.

Mechanical Engineering

Coordinator

Lars Koens (l.a.koens@saxion.nl)

About Mechanical Engineering

Students of the Mechanical Engineering programme (WB) know everything about the design, calculation, production and technical improvement of products, machines and constructions. This involves translating a customer question or problem into a technical solution. The mechanical engineers arrive at a final design of the product on the basis of concepts.

Mechanical Engineering in the Smart Solutions Semester

Students of the Mechanical Engineering (WB) programme can contribute to a Smart Solutions project in the field of optimising a design, producing it and choosing the right materials. Furthermore, the students can also participate in the automation of processes, the calculation of systems with flows (gases, liquids, heat transfer) or making a cost calculation of the product or construction.

Specialisations:

- Designing and conducting;
- Material Science;
- Thermal Mechanical Engineering;
- Automation.

Nursing

Coordinator

Sara Laurijssen (smartsolutionssemester.agz@saxion.nl)

About Nursing

Nursing students are trained as HBO-nurses (level 6). Students can be widely deployed in diverse professional fields, such as:

- Mental healthcare;
- Cognitive care;
- Social healthcare
- General healthcare service;

Nursing in the Smart Solutions Semester

Nursing students can be deployed in projects where the focus is on:

- Providing integrated care in the physical, psychological, functional and social areas.
- Promoting and supporting the health of target groups (health promotion/ prevention).
- Innovations in healthcare/ welfare arrangements (focusing on technology is about finding and knowing, safe and skilled use, trust, telling and deepening);
- Carrying out and applying research to improve the quality of care.

Physiotherapy

Coordinator

smartsolutionssemester.agz@saxion.nl

About Physiotherapy

Physiotherapy students are aimed at enabling people be able to participate in work, sport, and social activities for as long as possible. Everything here revolves around movement. Students have knowledge of the body and develop knowledge of biomedical science, kinesiology, and behavioural science.

Physiotherapy in the Smart Solutions Semester

Students in this programme know about prevention, (labour) participation, and vitality/ chronicity. They can contribute to the field of health promotion, for example. Students have already gained practical experience and, in addition to knowledge of anatomy, pathology, physiology and biomechanics, they have skills such as investigative ability and professional communication in the context of treatment.

Tourism Management

Coordinator

Fleur Vennegoor-Fransen (a.f.c.vennegoor@saxion.nl)

About Tourism Management

At Tourism Management we train students to become flexible tourism professionals who create tourism, sustainable, responsible and meaningful products and services to enhance the hospitality experience, both within and outside the tourism and leisure sector. Tourism professionals know better than anyone what the wishes and needs of customers are, have an eye for new technologies, see opportunities for innovation, translate this into financial and economic feasibility and know how to position this successfully in the market.

Tourism Management in the Smart Solutions Semester

What a student can contribute in a project:

- Mapping trends & developments with regard to tourism/ hospitality issues;
- Developing products and services which contribute to the hospitality experience.
- Connecting new technologies to the behaviour and needs of the user;
- Performing target group analysis and map the customer journey;
- Writing and executing a(n) (online) Marketing communication plan;
- Do market research by means of desk and field research;
- Develop sustainable earnings and business models;
- Organising and managing projects

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