

TUM AGENDA 2030

TUM Teaching Reform

Table of Contents

Personal Greeting from the President	04
Introduction from the Senior Vice President – Academic and Student Affairs	05
1. Preliminary Remarks	07
2. Professional Profiles	09
3. Development and Expansion of Diversified Graduate Cohorts	12
3.1 Plug-In Modules	13
3.2 Project Weeks	15
4. Organizational Structure	17
4.1 TUM Center for Study and Teaching	17
4.2 Senior Vice President – Academic and Student Affairs	17
4.3 Vice Dean – Academic and Student Affairs	18
4.4 Academic Program Director	18
4.5 Teaching Committee	18
4.6 Professional Profile Committee	19
4.7 QM Circle and Extended QM Circle	19
4.8 Other School-Level Boards and Committees	20
4.9 Study and Teaching Board	20
4.10 Study and Teaching Council	20
Appendix	21
I. Professional Profile – The Set-Up Process	21
II. Professional Profile – Assignment Process for Professors	23
III. Process of Assigning Degree Programs to Professional Profiles	24
IV. Academic Program Director – Nomination and Appointment Process	26
V. Professional Profile Committee – Nomination and Appointment Process	28
VI. Organizational Chart: TUM Center for Study and Teaching	29

Table of Figures

Figure 1: Illustration of how Plug-In Modules work	14
Figure 2: Illustration of how Project Weeks work	16
Figure 3: Flowchart for the process of setting up Professional Profiles	22
Figure 4: Flowchart for the process of assigning professors to Professional Profiles	23
Figure 5: Flowchart of the process of assigning degree programs to Professional Profiles	25
Figure 6: Flowchart of the nomination and appointment process for the Academic Program Director	27
Figure 7: Flowchart of the nomination and appointment process for Professional Profile Committees	28
Figure 8: Organizational chart: TUM Center for Study and Teaching	29

Personal Greeting from the President



Dear Colleagues and Students,

What will the future of university study and teaching look like? Our world is undergoing profound transformation. While this poses challenges that we as a society have never faced before, it also offers unprecedented opportunities. In order to utilize these opportunities, to make our future more agile, digital, sustainable, and healthy, to find answers to the really big questions, we, the Technical University Munich (TUM), must offer our young talent the space and support they need to develop their skills, tap into their creativity, and follow their curiosity.

As part of the TUM AGENDA 2030, we have introduced strategic changes to our teaching and taken courageous strides toward the academia of the 21st century. We are reinventing ourselves, questioning entrenched ways of thinking and doing, and creating an environment where we work in continual dialog with you, our university teaching staff, students and employees, as well as with our partners in research, industry and society, to find answers to the questions of today and visions for the world of tomorrow.

This brochure elucidates the objectives, structures, and processes of our new approach to teaching at TUM. Think of it, however, not merely as information but as an invitation to the entire TUM family to experiment with this new approach, contribute to its design, and move together toward the teaching of the future.

Sincerely,

A handwritten signature in blue ink, reading "Thomas F. Hofmann". The signature is fluid and cursive, with the first name "Thomas" and last name "Hofmann" clearly legible.

Prof. Thomas F. Hofmann
President of TUM



Dear Colleagues and Students,

Teaching concepts have always influenced human thought and development. There was “*the possession of terms and knowledge of causes*” put forward by Aristotle, “*the uninterrupted, ever stimulating, yet informal and unintentional interaction*” between teacher and student inspired by Wilhelm von Humboldt, and the transfer of knowledge with the goal of “*giving the commercial and industrial world an inspiring spark from academia*” advocated by *Karl Max von Bauernfeind*. A modern university needs *Aristotle’s* terms and causes for cross-disciplinary collaboration, *Humboldt’s* informal interaction to access our innovative and creative potential in the search for solutions in open, dialogical spaces, and *Bauernfeind’s* approach to the transfer of knowledge for the rapid translation of new discoveries into novel products and systems. The combination of these various concepts requires us to continually rethink the university. What were once useful paradigms at our technical universities may now, in light of new opportunities, represent bothersome limitations. For this reason, the goal must be to identify, question and – where necessary – replace them with new approaches.

In this context, educational systems must keep apace with modern possibilities for value creation. If they lag behind, as was often the case historically, for example, during the transformation from an agricultural to an industrial society in the 19th century, humanity will fall short of realizing its potential. In the latest transformation towards digitalization and Industry 4.0, we have to pay particular attention to ensuring that our academic instruction optimally prepares students for their formative roles in society and enables them to face complex questions with profound knowledge. Today, this is often only possible by taking a holistic approach that merges various disciplines and both recognizes and utilizes the possibilities arising from the new variety of methods and information resulting from digitalization.

Currently, there are over 48,000 students who have put their faith in TUM during a decisive phase in their lives. The TUM family thus carries a great deal of responsibility – for these young adults, but also for the further development of Bavaria as an industrial center, and, in turn, for ensuring our prosperity and our impact on the world.

You carry out this responsibility as talented, creative, and dedicated teaching staff, who represent their respective disciplines with enthusiasm, or as motivated and dedicated students, who are inspired by their instructors’ passion. To ignite this enthusiasm, your daily work requires two strong foundations: First, there need to be degree programs with future-oriented competency profiles and extradisciplinary courses that broaden our students’ perspectives – both of which prepare our young talent for making their contribution to value creation in academia and professional practice and for effecting the transfer of the latests scientific knowledge to society. Second, there needs to be outstanding professional academic teaching and modern teaching methods that best convey to students the knowledge, skills, competencies, and approach required for having a successful impact.

In the years 2015, 2017, 2019, and 2022, colleagues from all TUM schools and departments, including all of the important multipliers in their departments, came together during the *Teaching Symposium* to discuss the future of teaching at TUM. There, we discussed the multifaceted development processes of competency profiles and the formats that we use with our students to encourage their enthusiasm, creativity, and motivation to do something new, to look at the bigger picture, and to promote mutual understanding between the disciplines. In short, we began to conceive a teaching approach that was *Aristoteles 2.0*, *Humboldt 2.0* and *Karl Max von Bauernfeind 2.0* in equal parts!

Our work led to the *Raitenhaslach Agenda*, which we used to develop the *TUM Teaching Constitution* together. In 2020, it was awarded the *Genius Loci* prize bestowed by the Donor's Association for the Promotion of Humanities and Sciences and the Volkswagen Foundation. The award was to honor TUM for their efforts to “incorporate the Teaching Constitution consistently in their overall university strategy, while anchoring and implementing it within the institution” and “for making innovative teaching accessible to all TUM students with a well-structured teaching concept and the specific corresponding measures [...]”.

For operationalization of the Teaching Constitution and facilitation of new formats, new structural elements emerged within the scope of the last application for the excellence strategy submitted to the federal and state governments for a line of funding for “universities of excellence”. Some of these elements were implemented for the first time during the past two “Covid-19” years, which were effectively a turbo-boost for the digitalization of teaching formats and development of *blended learning courses*. We continue to enhance them through in-depth discussions and have given them concrete shape in our teaching symposium and the ongoing dialog with our teaching staff.

We are using these elements to classify and structure the further development of competency profiles by means of *TUM Professional Profiles*, to promote talent-oriented programs, and to facilitate insights into other disciplines using novel formats such as *Plug-In Modules*. We are also utilizing these elements to offer block teaching forms on a broad scale through *Project Weeks*, as they are useful for multidisciplinary and multi-campus teaching formats, for facilitating project-based learning, or for generating a special learning flow.

Our aim is to have cohorts of graduates who can proficiently maneuver in open dialogical spaces as they seek solutions to complex problems, whose innovative ideas anticipate new products and avenues of value creation, and who are able to solve problems holistically together with stakeholders from different disciplines. In addition, they combine profound disciplinary and professional competency with good communication skills, a common understanding of disciplinary boundaries, and a reflective attitude towards their own impact on others. This is how we will be able to continue reinforcing our strong position in the world. After all, it is the basis for our success and prosperity – and for maintaining our core social values.

Thank you for your commitment and your creativity. I look forward to the future of teaching at TUM.

Sincerely,



Prof. Gerhard Müller
Senior Vice President – Academic and Student Affairs

1. Preliminary Remarks

In 2019, TUM defined objectives, measures, and formats for engineering education of the future within the context of its **excellence strategy**, which was detailed in its application titled “TUM. The Entrepreneurial University – Innovation by Talents, Excellence and Responsibility” that was submitted to the federal and state governments. These elements form the **nuclei for boosting the continued enhancement of teaching at TUM**.

In addition to sound competencies in their own subject, **TUM graduates** require (i) the competency to make a contribution to shaping upcoming **social transformation processes**, (ii) insight into other disciplines and ways of thinking derived from these processes, as well as competencies for **interdisciplinary and transdisciplinary collaboration**, and finally (iii) they must be prepared to assess the **potential of new developments** outside their areas of expertise to impact **their own field**. The last aspect is particularly important: New fields and potential areas are emerging in particular outside of the boundaries of disciplines and departments. When the focus is placed too heavily on traditional contents and teaching formats and a classification process is undertaken along disciplinary research, one runs the risk that the innovation potential will not be able to take sufficient effect. **Creative free space for identifying the potential of new developments must be created.**

Engineering disciplines as illustration of need for continued development of teaching

Classifying “traditional” engineering disciplines along associated “artefacts” such as building/infrastructure, machines, information systems, i.e. using a product and production oriented approach, was a very successful model within the context of industrial development during the 19th and 20th centuries. Indeed, this view is still reflected in associations, professional associations, professional titles, and qualification frameworks.

Yet, due to the strong focus of this view on products and production, graduates of the engineering disciplines are not always adequately involved in the communication and facilitation processes of technology-induced social changes. Their level of involvement in discussions in the political and social arenas is often disproportionate to their level of participation in development and value creation processes. This is an important issue for places such as Germany and Europe as (i) overarching objectives such as sustainable development goals are be-

*ing identified, and (ii) the underlying skepticism in society towards technologies requires appropriate holistic integration of technologies in social and economic contexts. The increasing complexity of technologies requires a fundamental understanding of other disciplines to even be in the position to make interdisciplinary and transdisciplinary cooperation possible in value creation. Therefore, having graduates focus too much or even exclusively on their own subject is no longer sufficient for meeting the requirements that engineers are facing today as the professionals responsible for designing technology or as the facilitators of technology-driven transformation processes. Universities are called upon to **think in broader terms about engineering skills and the future education and training they require. There are currently numerous considerations and demands coming from different stakeholders with regard to these skills.** There is great demand for a structured discussion on what is needed and how to fulfill those needs in current and new curricula. **The Technical University of Munich must assume a leadership role in this process.***

Given the broad range of disciplines, TUM’s answer to this cannot be limited to content-related curricular standards. Rather, it lies much more in the processes, structures and formats that form the

1. Preliminary Remarks

way the curricula are designed and that significantly simplify and promote interdisciplinary collaboration and the integration of new disciplines. New formats serve to inspire students across disciplines, encourage **intellectual engagement with important contexts of understanding and areas of potential** beyond the purview of their own discipline and impart the **cooperation and communication skills** students will require as they assume professional roles in society.

In keeping with a 21st century education, our aim – in addition to **imparting the essential disciplinary skills** students require – is, therefore, to promote, in appropriate measure, enhanced cooperation across the boundaries of schools, departments and disciplines **by providing the requisite structural elements and fostering a spirit of shared scientific community.**

Two key measures are being introduced in the course of the school transition to bring about the structured development of competency profiles and the creation of necessary flexibility in the design of academic instruction, as well as in the acquisition of individualized skills. These two fields of action make it possible to react directly to new knowledge and, thus, supplement degree program development with its inherently long-term planning horizon:

- i. **Professional Profiles:** Further development of the content of degree programs and their competency profiles.
- ii. **The development and expansion of diversified graduate cohorts and enhancement of their competency profiles:**
 - a. **Plug-In Modules:** supplementing discipline-specific education and training in a manner that is driven by students' individual talents, interests and performance with the goal of promoting multifaceted skills and broad access to and insights in other disciplines.
 - b. **Project Weeks:** Integration of formats for interdisciplinary and transdisciplinary collaboration and for further promoting communication skills.

2. Professional Profiles

The new structure of **Professional Profiles**, under the **leadership of the corresponding Academic Program Director**, ensures the transfer of research findings to teaching in conjunction with specific transversal skills. Its purpose is to further develop competency profiles across the university using TUM's comprehensive portfolio.

Professional Profiles (PP) no longer classify the degree programs and their qualification profiles only along the lines of "classic disciplines". Instead, they consider current, new, and future challenges in order to develop qualification profiles that extend beyond the disciplinary boundaries of individual schools and departments. This extended development takes place along available academic framework systems and methods and along professional fields or industries. To further develop existing and new competency profiles, the **demands of society and industry** are reflected on in discussions involving academics and external stakeholders, so that they can be integrated into the competency profiles of new, already existing or recently merged degree programs. In the process, we can assume that some competency profiles will go beyond the current job profile of graduates. The competency profiles that emerge will also continue to influence job profiles in the future and thus will create the prerequisites for new scientific findings to advance traditional areas in turn. In many disciplines there is **untapped and unknown potential that must be realized for academia and society**.

The field of Computational Engineering is an example of a competency profile that originated within universities, which in businesses to-

day now brings together graduates from engineering, computer science and the natural sciences.

Since the design of qualification **profiles can potentially draw on all of the degree programs offered by TUM** and education and training thus cannot only be limited to the instructional content of any single school, PPs are structured in such a way that they can be operated **together by multiple schools**.

Overarching Professional Profiles can be illustrated, for example, with robotics and artificial intelligence: In some disciplines, these fields have not yet reached their full potential by any means. It is a challenge to structure education and training so that new potential in the various disciplines can be identified and followed by its technological implementation. This is not only true specifically in the TUM School of Engineering and Design (ED) and in the TUM School of Computation, Information and Technology

(CIT), it also reflects the situation with the embedding of social aspects in the TUM School of Social Sciences and Technology (SOT), for example, or the insight gained in Health Research or Business Administration. Extremely successful businesses have been able to expand their success because companies astutely recognized and acted on new potential fields that were being addressed insufficiently or only selectively in traditional instruction.

In the organization of instruction by thematic clusters, PPs follow unique criteria independent of individual schools and departments.

2. Professional Profiles

(i) An organizational home is created at inter-school interfaces for the available degree programs which have qualification profiles that cannot be assigned to only one discipline. This allows us to combine available degree programs that may treat areas of responsibility and thesis topics from different perspectives with different customized competencies but that also are reflected on together for further development in discussions with academics and external stakeholders. The programs developed separately in several schools and departments up until now are being placed in a common context, which ensures that students and society get a clear representation of the programs. The assignment to PPs also facilitates the reassignment of the degree programs available within a school in (ii) thematic fields that cut across different programs, such as in the field of mobility, and (iii) within existing disciplines in order to further develop traditional occupational profiles.

The **PPs are arranged within TUM as a permeable and flexible structure**. This makes it possible to react swiftly to new challenges and to create new PPs. You can find more information about the process of setting up PPs in Appendix [I. Professional Profile – The Set-Up Process](#).

The design freedom of the PPs also makes it possible to assign degree programs according to other criteria. For example, the degree programs offered by TUM Asia at the TUM campus in Singapore are subject to different regulations. Moreover, the PPs simplify the structured

and coordinated further development of the available degree programs with similar target cohorts and target skills, which used to be arranged separately in several different schools or departments.

The degree programs for a PP are always organizationally situated in one school, also with respect to meeting the legal requirements for the decision-making processes of administrative boards, when degree programs are established, modified, or discontinued. You can find more information on the process work flow in Appendix [III. Process of Assigning Degree Programs to Professional Profiles](#). **Collaboration between representatives of different disciplines and shared strategic responsibility are undertaken at the PP level**, and thus by the members of more than one school in the event of joint PPs involving different schools. **Committees are anchored at the PP level** and are tasked with recommending the **design of the degree programs in terms of discipline-specific content**. They play a **central role in TUM's quality management system in the area of study and teaching**. These committees include the (Extended) Quality Circle for monitoring quality on a regular basis, the Departmental Committee for Student Affairs for pending issues regarding the implementation of established degree programs, and the **Professional Profile Committees (PPC)** for discussing strategic further development.

When a degree program is being established for the first time or is being restructured, a **PPC** is temporarily created to connect the external and internal expertise of a PP. The specific design of a PPC's role depends on the respective goal and purpose of the degree program (also see [4.6 Professional Profile Committee](#)).

The members of a PP are full-time professors, honorary professors and adjunct teaching professors. Assignment to the PP is undertaken using the discipline-specific criteria agreed to within a PP. In particular, membership in a PP requires a substantial, content-related contribution to the degree programs of a PP. Not all of the professors involved in a degree program are members of the PP assigned to the degree program. However, each professor is assigned to at least one PP (also see Appendix [II. Professional Profile – Assignment Process for Professors](#)).

2. Professional Profiles

The **Academic Program Director (APD)** is selected from the group of full-time members of a PP and is responsible for the discipline-specific steering of the PP and for making strategic decisions at the PP level in consultation with the Vice Deans – Academic and Student Affairs for the relevant schools involved (also see [4.4 Academic Program Director](#)).

3. Development and Expansion of Diversified Graduate Cohorts

A key element to meeting society's demands is **developing diversified cohorts of graduates through expansion driven by talent, interests and performance and through opening up discipline-specific and interdisciplinary education and training.**

TUM's approach assumes that this process is best achieved not only on the basis of (i) cleverly designed curricula, but also (ii) from the needs identified by dedicated and well-informed cohorts of university teaching staff and students along the lines of swarm intelligence; these needs are reflected in courses of study with clear competency objectives that agilely respond to new contents. Moreover, the visualization and structured promotion of interest- and talent-driven studies is important even beyond the core curricula. The aims are achieved in part through **adaptive and collaborative teaching and learning.** Elements of **personalized education and training** can either be integrated into existing degree programs or offered as additional extracurricular elements. In terms of content, the objectives are pursued by

- i. using discipline-specific aspects in a multidisciplinary reference framework and by using this framework to establish a connection to the natural sciences, humanities, social sciences and economic sciences;
- ii. preparing special aspects of a discipline in such a way that its potential and its particular challenges are also visible for people who are not from the field;
- iii. and facilitating deeper insight into disciplines for different target groups.

The extracurricular activities offered at TUM must be expanded in addition to the curriculum courses being offered. Extracurricular formats can also be initiated by PPs in order to potentially integrate them into the curricula at a later date.

3. Development and Expansion of Diversified Graduate Cohorts

3.1 Plug-In Modules

The course offerings available are expanded in a targeted manner with one- or two-semester **Plug-In Modules**, which support students in the best possible way with **interest-oriented and talent-oriented studies**. The contents range from recent scientific findings or perspectives that have not been included in the curricula yet to interdisciplinary issues and structured insights into other disciplines; the contents are also independent from the curricula of the respective degree programs. This should make it easier for students to **develop specific competencies and more advanced discipline-specific knowledge**, which has not been taken into account in their regular curriculum modules.

Furthermore, it gives them the **opportunity to deal with issues and approaches from different disciplines** and to work on interdisciplinary projects together with fellow students from other programs.

The Plug-In Modules are diverse:

- i. **Cutting-edge studies** – the agile integration of new topics: modules that convey competencies and knowledge, which have not been incorporated into the regular module catalog for the selected degree program – *21st Century Skills, Industry 4.0*, for example.
- ii. **Talent and/or interest-oriented learning**: modules that cover competencies and knowledge that supplement students with information from their respective field on top of regular modules. They can be additional elective modules in the selected degree program.
- iii. **Multidisciplinary perspectives**: modules that convey the essence of a discipline to students from other programs. In the process, the boundaries of one's own discipline should be identified which could potentially be transcended with approaches from other disciplines. A good example is the module *Politics for Rocket Scientists*.
- iv. **Collaborative competencies**: modules that attract students from different disciplines and that address an (interdisciplinary) topic, which students work on together using multiple disciplines. The module *Sustainable Living Labs* is a good example.

The credits acquired here can either count as an elective module or will appear in a student's transcript as additional credit. Furthermore, this additional achievement should be made transparent in structured formats **through certificates** as an **element of special qualifications**. When a **micro-credential** format requires additional substantiation and institutionalization, the additional skill acquired can also be made transparent using this form.

Various opportunities arise within the scope of the Plug-In Modules for students to develop their own **individual competency profile** – so that it is even truly unique. During the course of their studies, students already begin acquiring additional competencies to gain advanced knowledge, which enables them to create a seamless transition to lifelong learning. The first Plug-In Modules began in the summer semester 2020, and they have been well received by students and the university teaching staff.

3. Development and Expansion of Diversified Graduate Cohorts

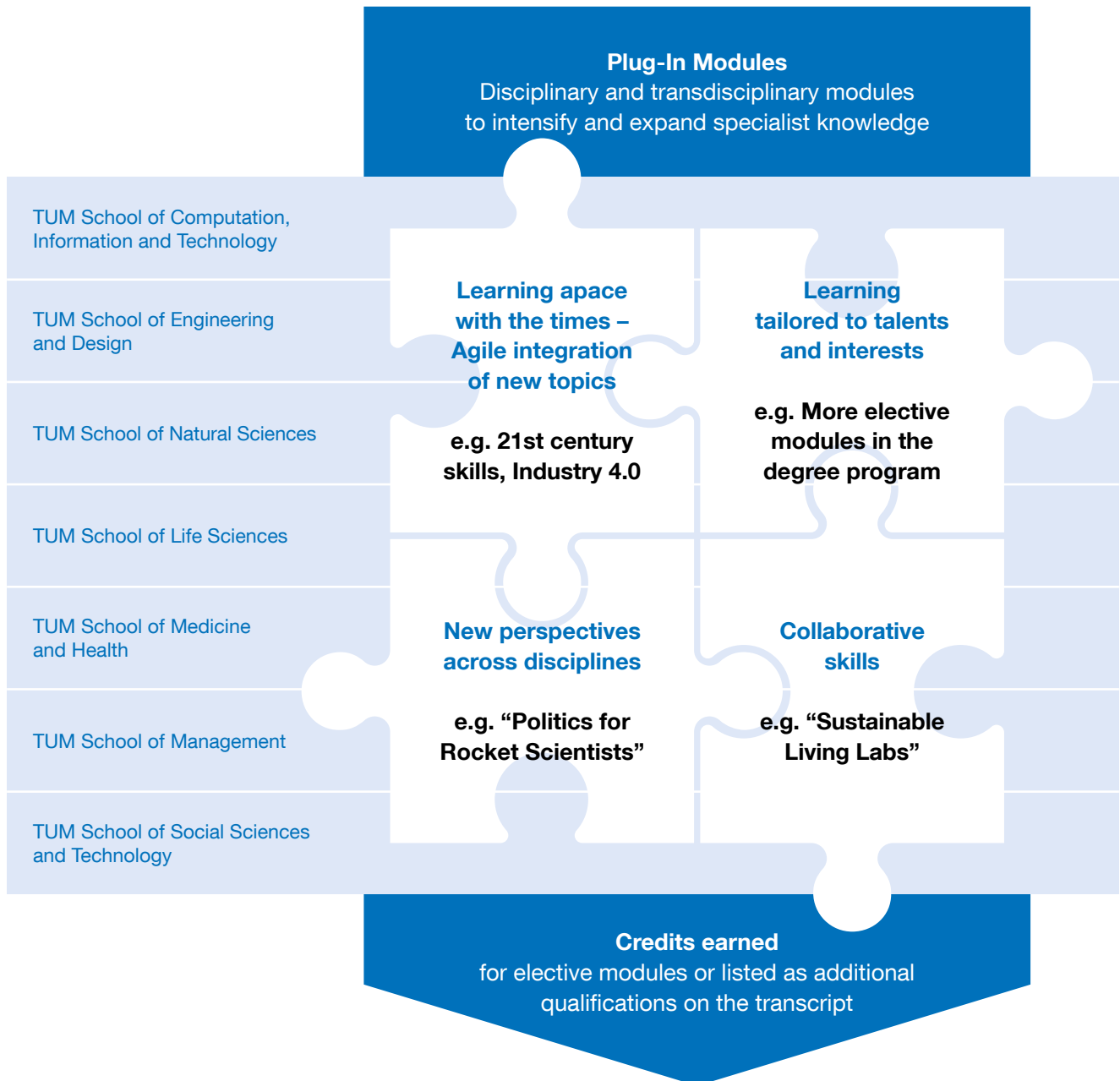


Figure 1: Illustration of how Plug-In Modules work

3. Development and Expansion of Diversified Graduate Cohorts

3.2 Project Weeks

Project Weeks represent a format that offers university teaching staff and students **space for collaboration across departments, schools and campuses**, and they make it significantly easier to **organize modern teaching formats**. Although Project Weeks can also be designed as extracurricular activities during a transitional phase, they are supposed to become a permanent part of the curricula in the future.

During Project Weeks, **project-based teaching and learning** should be facilitated in particular while concentrating on an issue that has already been dealt with in the degree program curricula. Here, space is given for example (i) for **addressing tasks and issues** that should be handled in an **interdisciplinary or transdisciplinary manner**, which will enable students to view social processes critically, to reflect on them, to co-design them with the best intentions in mind, and to have them reflected in their own discipline-specific activities or their own social reference framework; (ii) for **undertaking discipline-specific projects in teams**, which can be worked on better in one stretch than distributed over the course of a semester; (iii) for **realizing cooperation projects in academic teaching with partner universities**; (iv) for utilizing already established formats in **entrepreneurial education**, which can be located in the curriculum; and (v) for **onboarding** formats. Students acquire **collaboration skills** and learn how to have dialog with other prevailing academic cultures in some of the formats. This corresponds to the task of ensuring that so-called **21st century skills** are included as learning outcomes in addition to technical training.

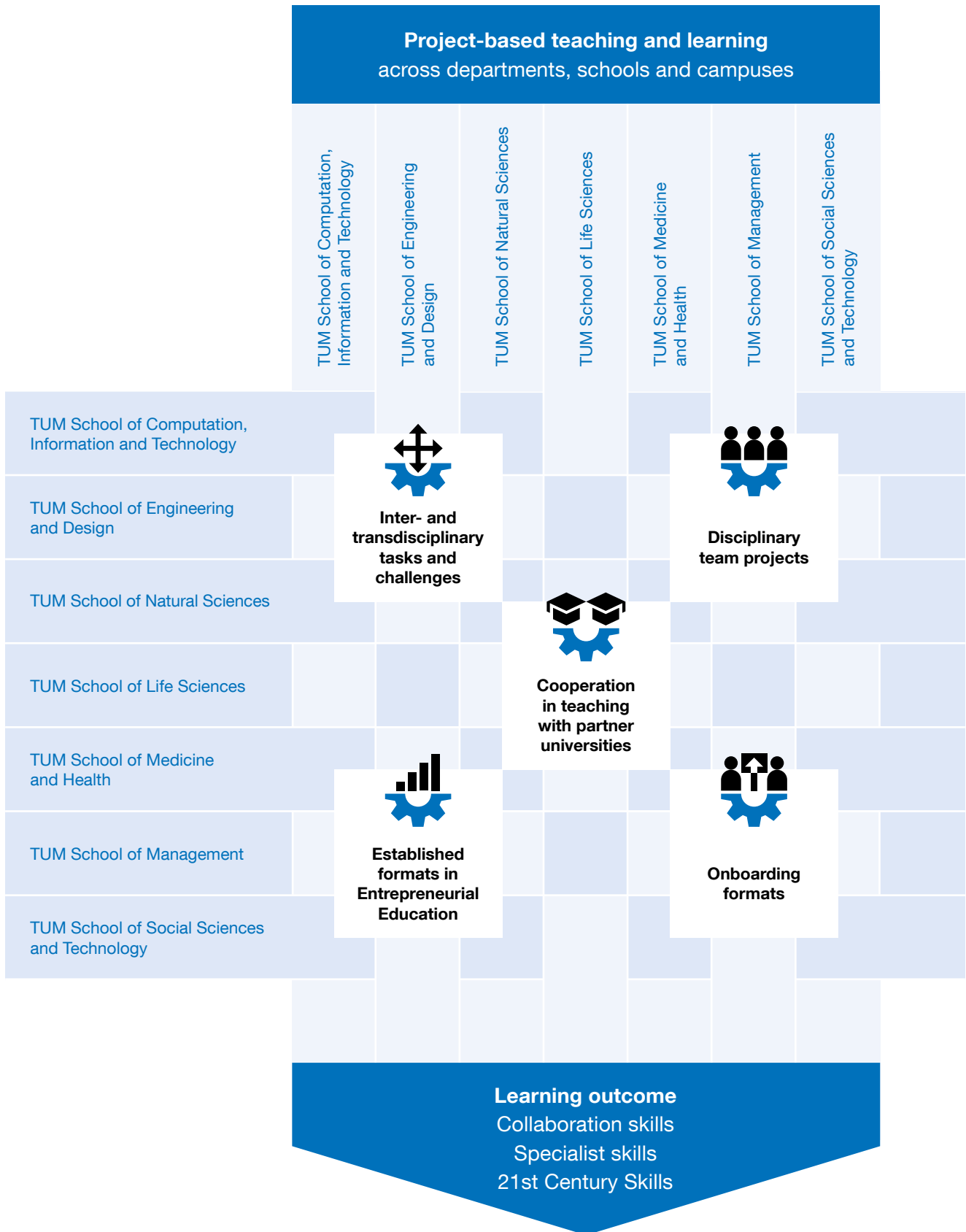
After participating in Project Weeks, students will ideally be able to take social and ethical aspects into consideration when developing project proposals, they will work proactively together in heterogeneous teams, and they will develop new holistic approaches for broad issues.

In the process, we should build systematically upon the experience already gained at TUM by visualizing and further developing different project-based teaching formats that already exist. University teaching staff should be supported with the development of new teaching formats.

During the start-up period, different forms of project work are presented in particular discipline-specific contexts and rule-of-thumb figures are collected on the added value created and challenges. A differentiated picture of the entire spectrum of project-based teaching is to be drawn in this manner.

To make this format suitable for use across schools and campuses and to promote the coming together of diversified student cohorts, a flexible format is required as well as a permanent time and space. For this reason, a flexible concept for designing a Project Week is planned as the format, which focuses on students' perspectives and relies on their intrinsic motivation. This concept requires a **consistent, TUM-wide transparent week**, which will initially take place at the beginning of each year and possibly will then be held twice a year in the future. The teaching staff (that do not participate in the Project Weeks) are kindly requested to not cover particularly relevant material or schedule exams during a Project Week and to make it possible for students to catch up on the material covered so that students who are interested in a Project Week topic can participate. This way, participants can organize their workload for their course of study independently without jeopardizing their studies. During this week, the campus has a dynamic set-up, which should lead to a productive group dynamic, especially when done in conjunction with a final event.

3. Development and Expansion of Diversified Graduate Cohorts



4. Organizational Structure

4.1 TUM Center for Study and Teaching

Implementation of the TUM Agenda 2030 in the area of teaching and learning requires organizational repositioning to professionalize the processes involved in managing degree programs and students. For this purpose, the Academic and Student Affairs Office and the Student Service Center were merged, further developed in terms of content and consolidated under the recently created TUM Center for Study and Teaching (TUM CST). TUM CST is under the purview of the Senior Vice President – Academic and Student Affairs and is divided into eight departments: (i) Quality Management, (ii) Legal Affairs, (iii) Planning, (iv) Communications, (v) Student Advising and Information Services, (vi) Admissions and Enrollment, (vii) Fees and Scholarships, and (viii) Graduation Office and Academic Records.

TUM CST optimizes and structures essential processes in undergraduate academic teaching and degree program administration. Furthermore, it defines uniform standards for teaching and learning, ensures they are implemented, and provides planning information as an empirical basis for sustainable innovations. An essential area is also providing support, advising and administration for all phases of degree programs in addition to communicating relevant topics and services related to study and teaching.

The organizational chart is depicted in Appendix [VI. Organizational Chart: TUM Center for Study and Teaching](#).

4.2 Senior Vice President – Academic and Student Affairs

The Senior Vice President – Academic and Student Affairs is a member of the TUM Board of Management and one of the Senior Vice Presidents selected by the TUM Board of Trustees. She or he assumes responsibility for study and teaching. This responsibility includes, among other things, addressing the main strategic issues concerning study and teaching, developing the TUM degree program portfolio, facilitating quality management in study and teaching, and ensuring system accreditation. The Senior Vice President – Academic and Student Affairs is the chair of the Study and Teaching Board as well as the Study and Teaching Council; she or he is responsible for and steers the TUM Center for Study and Teaching, and represents the concerns and interests of the university in the area of study and teaching internally (TUM Board of Management, Senate, Board of Trustees, etc.) and externally (with the Bavarian University Association, State Ministry of Science and the Arts, and the German Rectors' Conference, etc.).

4. Organizational Structure

4.3 Vice Dean – Academic and Student Affairs

The Vice Dean – Academic and Student Affairs is a member of the School Executive Board. She or he is responsible for the technical steering and strategic decisions in the area of study and teaching at the school level, while working in close collaboration with the Senior Vice President – Academic and Student Affairs. She or he is also the head of the Student Office, assumes the position of chair in governing bodies at the school level (esp. the Teaching Committee) and is a member of the Study and Teaching Board on the TUM level.

4.4 Academic Program Director

The Academic Program Director (APD) is responsible for the discipline-specific and strategic steering of the PP assigned to the APD in consultation with the Vice Deans – Academic and Student Affairs of the relevant schools involved. An APD is the chairperson for the boards or committees on the level of his or her PP, such as the QM Circle and the PPC, and is a member of the Study and Teaching Council on the TUM level, as well as of the Teaching Committee on the school level. The APD monitors the development of the degree programs assigned to the PP and represents the PP in specific disciplines internally and externally (professional associations, chambers, interest groups).

Moreover, the APD manages the identification of teaching needs for the degree program assigned to the PP and incorporates them into the appointment plans via the Vice Deans – Academic and Student Affairs.

The nomination and appointment process of the APD is described in Appendix [IV. Academic Program Director – Nomination and Appointment Process](#).

4.5 Teaching Committee

The Teaching Committee is made up of all APDs of the school and supports the Vice Dean – Academic and Student Affairs in his or her operational and steering activities. Through the Teaching Committee, the teaching needs on the PPs level can be brought to the attention of the Vice Dean – Academic and Student Affairs. For joint PPs across different schools, the APDs for these PPs, who are usually members of the Teaching Committee of the school, are jointly responsible.

4. Organizational Structure

4.6 Professional Profile Committee

A Professional Profile Committee (PPC) links the external and internal expertise of a PP and is temporarily created for PPs that are being established for the first time or that are being restructured. This committee plays an important role with further developing and setting up competency profiles. The role of a PPC depends on the aims and purpose of the degree program or group of degree programs: If the role of the graduates has already been defined in essence (normally with existing professional groups), the focus lies on the development (of the fundamentals) of the qualification profile while assessing future developments and changes in responsibilities and requirements. If the course of study targets a new professional field or a role for graduates that has not been clearly determined yet, or if it concerns an overall very broad subject, the PPC will initially develop the aims of the degree program and ultimately a vision of the role for graduates in their future professions in academia and business. The nomination and appointment process is described in Appendix [V. Professional Profile Committee – Nomination and Appointment Process](#).

4.7 QM Circle and Extended QM Circle

Quality Management Circles (QM Circles) are set up at the PP level. They assess the overall feedback results of evaluations at all levels of study and teaching once a semester (course/lecturers, degree programs, department/school organization and strategy) as well as other important data (key statistics pertaining to students, feedback management, etc.) with respect to improvement potential. The QM Circle is made up of the heads (not all the members) of the PPs and students; the position of chair is generally held by the APD of the associated PP. This ensures that all feedback undergoes prompt evaluation and enables the current “status” of degree programs to be determined on a continual basis, thus serving to reinforce favorable developments early on and to preclude any negative developments.

The QM Circle is extended every three years by adding an external participant from academia and professional practice. Strategic issues affecting degree programs are addressed every three-years in this manner in addition to issues concerning the operational level. Unlike a PPC, an Extended QM Circle deals with specific issues concerning the curriculum and program organization of an existing degree program that have been discerned from the evaluation results. A PPC, on the other hand, discusses the required further developments and modifications of qualification profiles, as well as the aims of the entire degree program for the future.

4. Organizational Structure

4.8 Other School-Level Boards and Committees

Other boards for study and teaching may exist on the school and PP levels depending on the organization of the school or design of the PP. In addition to the QM Circles, there are departmental committees for student affairs and for degree programs, which focus on the design of the degree program's curriculum. The members of these committees normally include the APD and instructors for the PP, as well as departmental student council representatives. With regard to the boards on the PP level, there is a rule that the members of these boards cannot only be members of a PP. Indeed, student council representatives, representatives of non-professorial academic staff and administrators of academic programs and the student body are an essential part of this board in addition to the members of a PP (APD, full-time professors, honorary professors and adjunct professors).

4.9 Study and Teaching Board

The Study and Teaching Board is a TUM-wide body chaired by the Senior Vice President – Academic and Student Affairs. The members are the Vice Deans – Academic and Student Affairs from all of the schools, the Vice Dean of the TUM Campus Straubing, representatives from the Assembly of Academic Staff Members, the Student Offices of the various schools, the Degree Program Management Committee, the TUM Institute for LifeLong Learning (TUM IL³), and student body representatives. The Study and Teaching Board is a small executive unit, which utilizes special committees in a flexible and timely manner when necessary to prepare templates for solving current problems or to report on the progress of implementing solutions.

4.10 Study and Teaching Council

The Study and Teaching Council comprises members of the Study and Teaching Board, the APDs, all PPs, the Gender Equality Officer and another student council representative. The council facilitates communication and sharing ideas on fundamental issues affecting teaching and learning.

I. Professional Profile – The Set-Up Process

- i. A proposal for a Professional Profile (PP) is prepared by a school or several schools or by an Integrative Research Institute (IRI), the TUM Institute for LifeLong Learning (IL³) or the TUM Board of Management (HSP).
- ii. The proposed PP is deliberated in the Executive Boards of the relevant schools, and information on the planned PP is sent to all TUM schools.
 - a. Upon agreement at the school level, a recommendation is made to the TUM Board of Management for setting up the PP.
 - b. If agreement is not reached at the school level, the proposal is sent to the TUM Extended Board of Management (EHP). The EHP will then issue a recommendation.
- iii. The resolution is presented to the HSP.
 - a. The PP is set up in agreement with the relevant schools; the EHP and Senate are informed.
 - b. If the PP is not set up, it is deliberated again by the relevant schools.

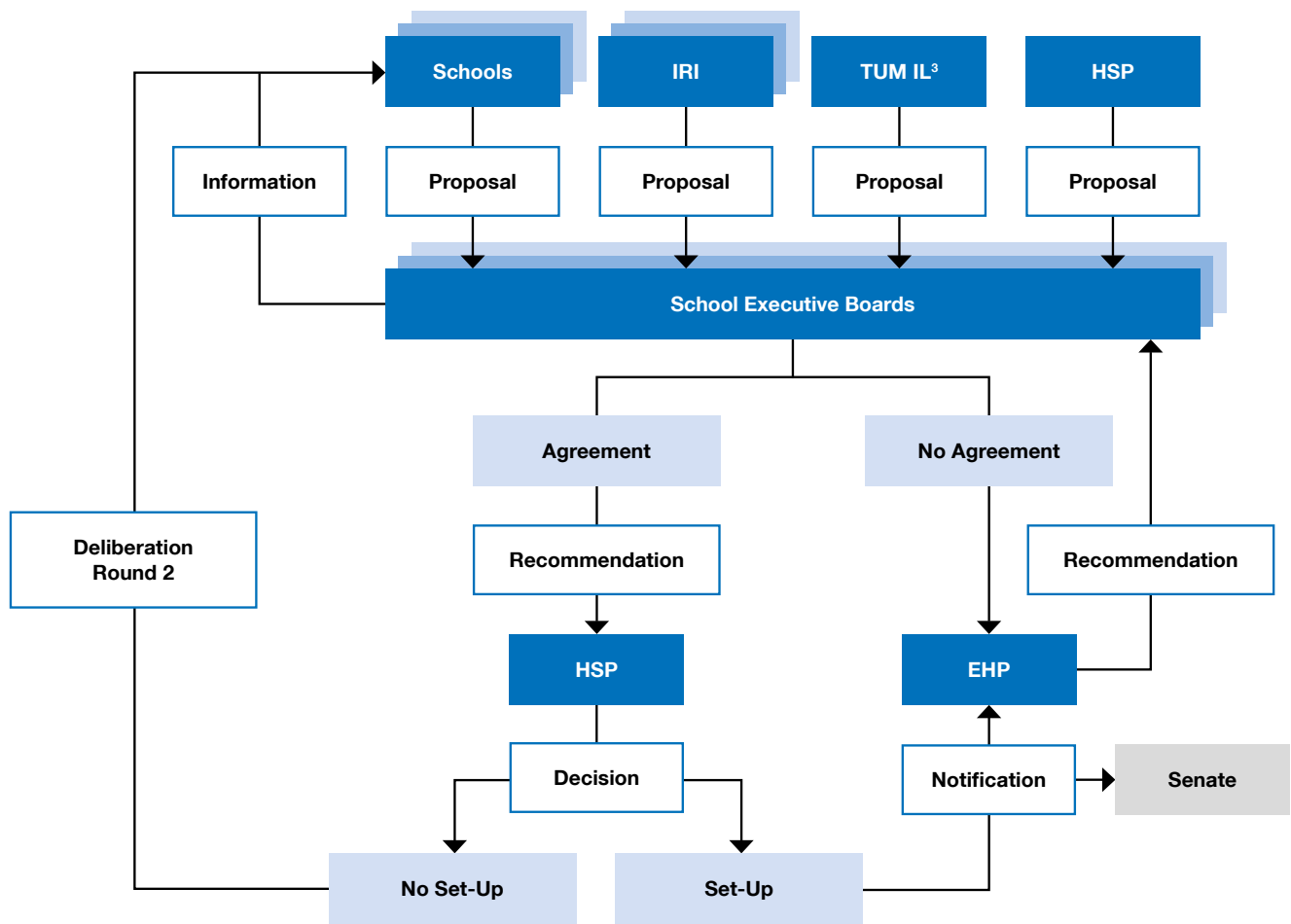


Figure 3: Flowchart for the process of setting up Professional Profiles

II. Professional Profile – Assignment Process for Professors

Members of a Professional Profile (PP) can be full-time professors, honorary professors, or adjunct teaching professors. The assignment of professors to a PP is carried out by means of discipline-specific criteria. A membership requires a substantial content-related contribution to at least one degree program assigned to the PP. Moreover, membership can also be justified due to contribution to a degree program that is not assigned to the PP but that addresses the subject or area of specialization. Every full-time professor is assigned to at least one PP. The assignment of honorary professors and adjunct teaching professors is optional.

- i. The relevant schools prepare proposals for professors' membership in PPs. In the event of memberships across different schools, consent must be given by all of the schools involved.
- ii. The relevant School Councils make decisions on the proposed memberships.
- iii. The decision is submitted to the Study and Teaching Board (STB) for their information.

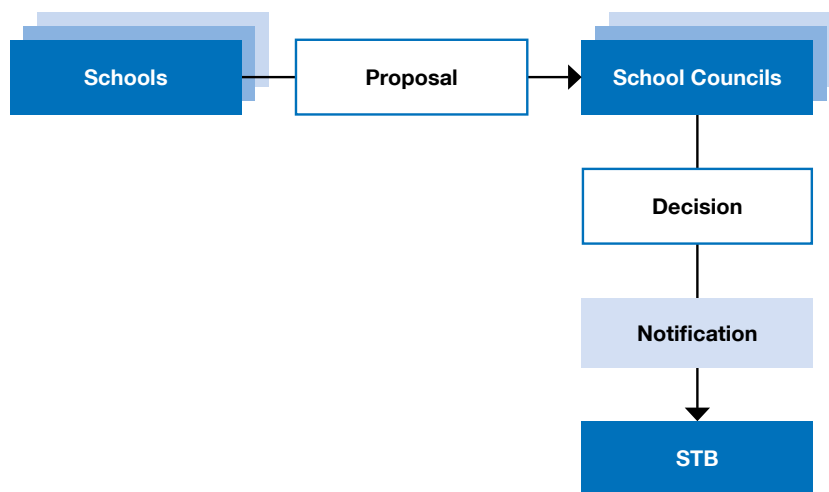


Figure 4: Flowchart for the process of assigning professors to Professional Profiles

III. Process of Assigning Degree Programs to Professional Profiles

Every degree program is clearly assigned to one school. This assignment remains unaffected by an additional assignment to a PP.

- i. If a degree program can be clearly assigned to a PP, a resolution is voted on in the relevant School Councils. The resolution is passed by the HSP and Senate as part of the set-up and modification process for degree programs.
- ii. If a degree program cannot clearly be assigned to a PP, a recommendation for the assignment is given by the schools involved.
 - a. If the recommendation from the relevant School Councils involved is unanimously agreed upon, the resolution is voted on by the HSP and in the Senate as part of the set-up and modification process for degree programs.
 - b. If the recommendation of the schools involved is not unanimously agreed by the relevant School Councils, the EHP will get involved. If the EHP issues a recommendation, the resolution will be voted on by the relevant School Councils, and, in turn, by the HSP and Senate as part of the set-up and modification process for degree programs.
- iii. Relevant schools, the EHP and the HSP can come to the conclusion in the resolution that an assignment is not possible due to the lack of a relevant PP. In these cases, a PP must be set up first in accordance with Process I.

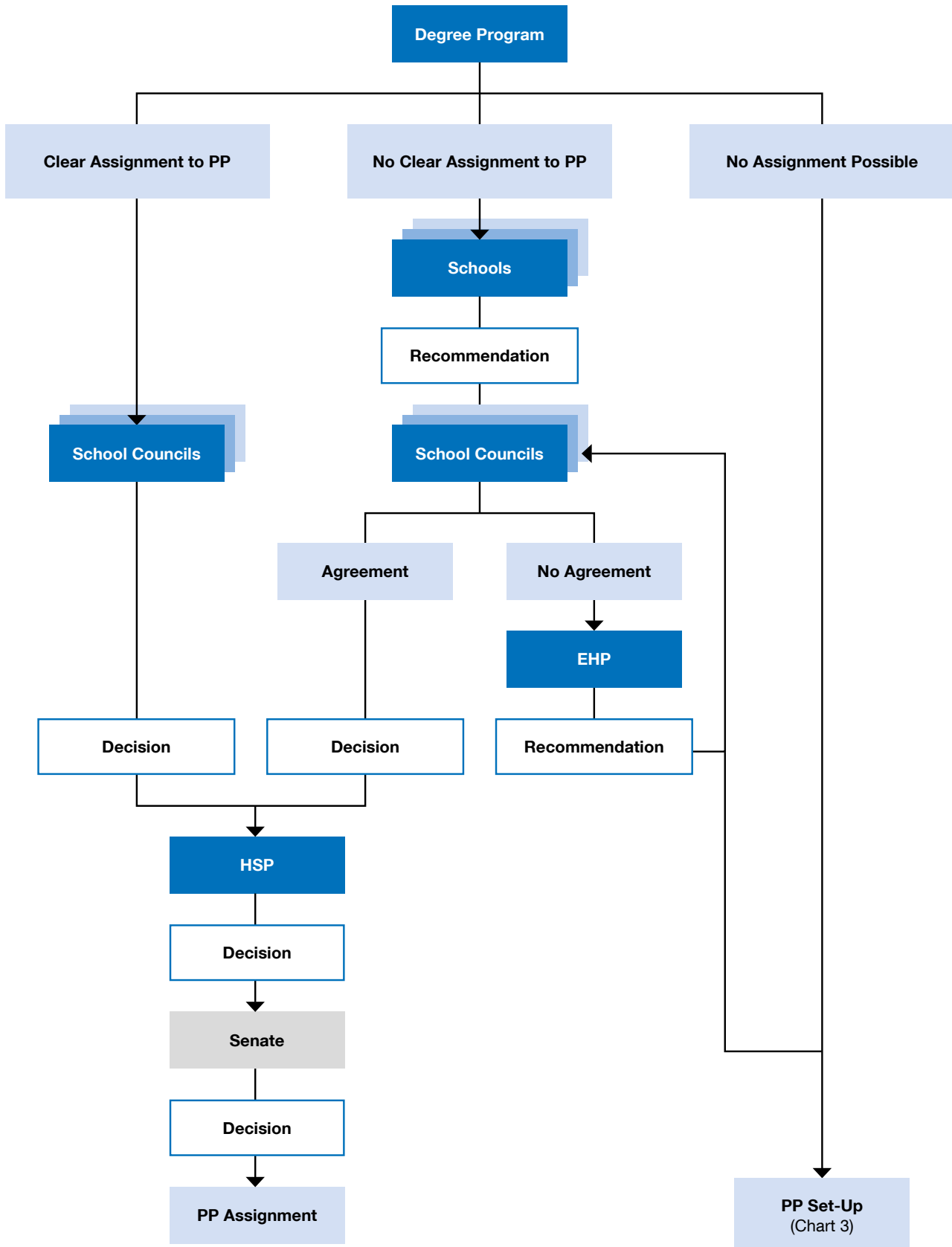
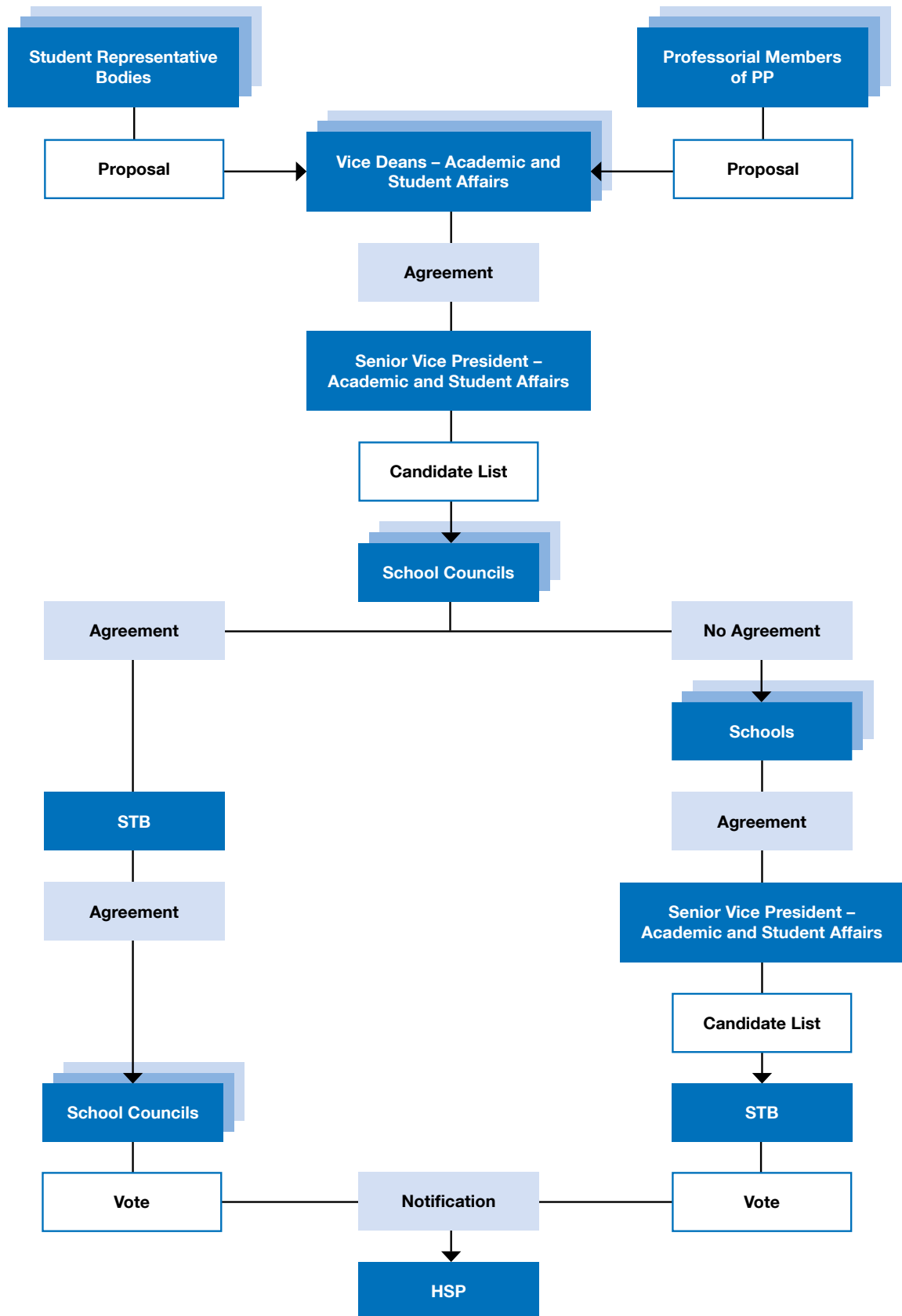


Figure 5: Flowchart of the process of assigning degree programs to Professional Profiles

IV. Academic Program Director – Nomination and Appointment Process

Candidates for the post of Academic Program Director (APD) must come from the group of university educators who work full-time in one of the schools and who are assigned to the relevant PP.

- i. Nominations for candidates can be sent to the Vice Deans – Academic and Student Affairs by the student representative participating bodies of the relevant schools and the professors who are assigned to the respective PP.
- ii. The Vice Deans – Academic and Student Affairs prepare a proposal list from these suggestions in consultation with the Senior Vice President – Academic and Student Affairs. The proposal list contains reasons for the individual candidates.
 - a. Selecting the APD is usually undertaken by the relevant School Councils voting on a resolution or agreed resolutions in agreement with the Study and Teaching Board (STB).
 - b. If an agreement is not reached between the schools, a proposal list of the relevant schools is prepared in coordination with the Senior Vice President – Academic and Student Affairs. The APD is then selected by the STB.
- iii. The HSP is informed of the vote.
- iv. The appointment is for a term of six semesters and reappointment is possible.



V. Professional Profile Committee – Nomination and Appointment Process

Professional Profile Committees (PPCs) are made up of members from the PP as well as external experts from science and industry. The number of external members corresponds at a minimum to the number of internal professors. The chair is held by the APD. Guests are permitted. PPCs are normally formed for PPs or newly emerging fields with low recognition. In justified cases, they can also be set up for individual degree programs.

- i. PPCs are formed temporarily and for special purposes
 - a. when the set-up and further development of degree programs and/or PPs are pending, and
 - b. when special needs emerge concerning development, which are identified by the schools involved, the HSP, the Senate or the EHP.
- ii. A proposal for setting up the PPCs is undertaken by the relevant schools involved in the respective PP using the long list.
- iii. The appointment is made by the HSP in consultation with the Vice Deans – Academic and Student Affairs of the relevant schools.

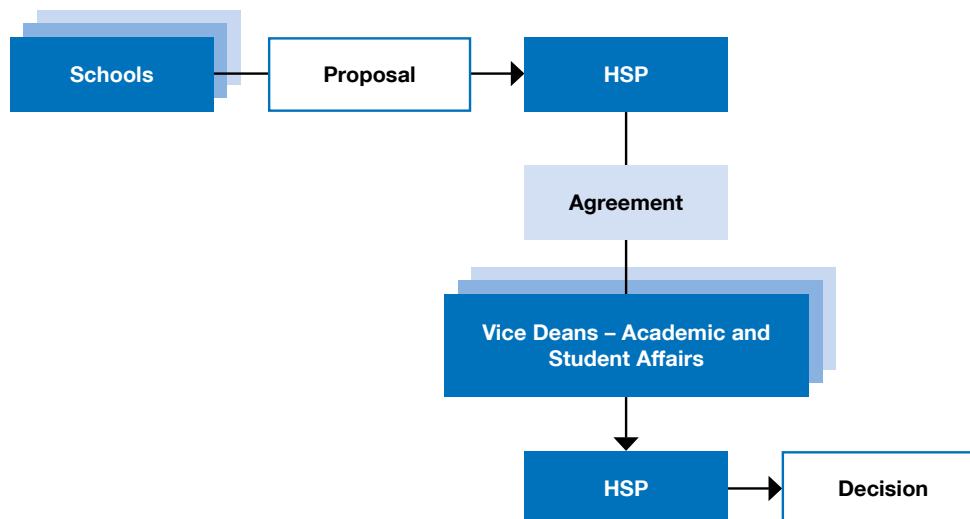


Figure 7: Flowchart of the nomination and appointment process for Professional Profile Committees

VI. Organizational Chart: TUM Center for Study and Teaching

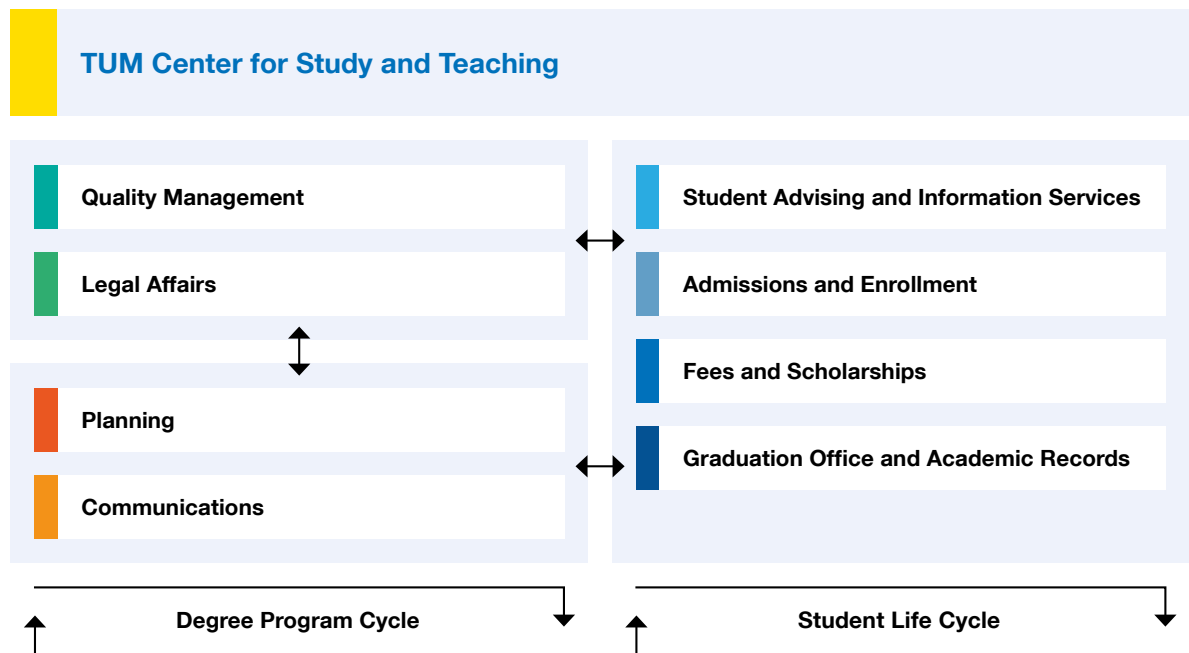


Figure 8: Organizational chart: TUM Center for Study and Teaching

Legal Details

Publisher:

Prof. Dr.-Ing. Gerhard Müller
Senior Vice President – Academic and Student Affairs

Technical University of Munich
TUM Center for Study and Teaching
Arcisstrasse 21
80333 Munich
Germany

Photographs: Astrid Eckert, Andreas Heddergott / TUM
Illustrations: Jan Matthies / TUM

May 2022