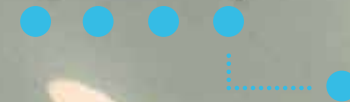


elope 3

Health & Architecture
50 m for Basel
Project Fall 2010/11

Bern University of Applied Science
Architecture, Wood and Civil Engineering



50 m for Basel

elope, the platform for learning and teaching, has been engaged in complex tasks that can successfully only be tackled by multi-disciplinary teams. *elope* works with students and faculty from an international network of universities. The themes always circle around topics of *Architecture & Health*. The *elope* 3 project *50 m for Basel* has its specific focus on swimmingpools and wellness infrastructures.

50 m for Basel

The project *50 m for Basel* was initiated by a local community of interest (ProHallenbad) who is impassionately interested to realize a 50 m indoor pool near Basel (Gemeinde Reinach), since the greater area of Basel has no such infrastructure that would allow for international swimming contests.

Swimming facilities are important public infrastructures with a long history regarding hygiene, health and sports. Major movements of public swimming pools can historically be found at the end of the 19th and the beginning of the 20th century. Nowadays, these public infrastructures are often producing financial deficits and are disliked by local governments.

elope 3 is looking *for the indoor swimmingpool facilities of the future*. The field of therapy and wellness spas has undergone a dramatic design development during the last decade and changed from nearly hospital-like designs to the building of exclusive fashion temples. *elope* 3 *50 m for Basel* wants to create an analogue paradigm shift to the understanding of indoor pools with high standards with respect to sports as well as technological design aspects and by observing sustainable thinking in an ecologic and economic sense.

Smart material – smart infrastructure

On a second level the project *50 m for Basel* shall provide answers to the question how concrete can be integrated in the industry partner's (CEMEX) innovation strategy. In order to apply these insights (of material and structural research), the teams will plan a tangible indoor swimming pool.

In internationally composed and multidisciplinary teams the students from architecture, civil engineering, construction and process management, sport facility management, etc. shall co-operate in this trans-disciplinary project towards a sustainable solution on a real site in the town of Reinach, Switzerland, by using modern information and collaboration technologies.

Poster:

Swimming Pool, 1999 | Leandro Erlich | The 21 st. Century Museum of Art of Kanazawa, Permanent Collection (2004)

Title page:

Ribera Serrallo Sports Complex, Barcelona Spain | Alvaro Siza | el croquis, Madrid 2008

Contact & Applications

Students in the master's program of the following disciplines are welcome to apply:

- Architecture
- Civil Engineering
- Construction Engineering and Management
- Building Technologies HVACR (Heating, Ventilation, Air Conditioning, Refrigeration)
- Mechanical Engineering
- Sport Management
- Sociology

Application Documents

Students interested in participation submit:

- Curriculum Vitae
- Letter of Motivation

Deadline: August 1st, 2010 to: elope.ahb@bfh.ch

Confirmation of participation from the *elope* team until mid August 2010.

Bern University of Applied Sciences

Architecture, Wood and Civil Engineering

elope

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Information & Web Technologies: Dino Zizzari

Context

Nowadays, students are increasingly challenged within their specific core disciplines; in addition however, they are also supposed to develop skills in order to apply this particular knowledge in practice. This ideally goes hand in hand with a sense of maturity of the individuals' characters vis-à-vis the social, cultural, and economical environment. The practical application of theoretical knowledge can thus only be implemented successfully, if these three basic elements are taken into account. The curricula for studies in Architecture and Architectural Process Management at the Bern University of Applied Sciences are fundamentally based on this comprehension and form the academic backbone of all *elope* projects. In addition to students' disciplinary knowledge, the ability to work efficiently within multicultural environments has become increasingly important. This cognition has led to universities becoming more proactive with regard to networking and offering joint courses, which is where *elope* is actively involved in.

elope sees itself as a learning system cooperating in a network of international universities and industry partners. It does so within a reflexive context, taking into account the various cultures involved in order to create new methods of resolution regarding teaching and learning. Students of the Master level are at the core of this concept and are given the opportunity to develop process-oriented expert knowledge through interdisciplinary, transcultural teamwork as well as the use of information and communication tools. Furthermore, *elope* respects the paradigm shift from supply-pushed to demand-pulled learning, i.e. to replace the swatting of facts by process knowledge. A further characteristic of today's challenges is an increasing tendency for the overlapping, or even amalgamation, of various lines of work in order to give way to new, holistic, and transdisciplinary perspectives.

elope is a comprehensive platform which offers students the chance to contribute their full potential. Each individual's attitudes, characteristics, and abilities are taken into account in order to allow as much space as possible for independent development of students' responsibilities and skills. A contribution to the concept of «campus in mind» is made by *elope* in providing the multidisciplinary teams with learning facilities that are based on experimental and interactive technologies. *elope* is not only about to significantly remould the landscape of teaching and learning at universities, it also intends to yield substantial influence concerning decision-making and the creation of practical work processes. In association with university teaching staff, the mentors are instrumental in contributing expert knowledge and regular feedbacks to the teams, and at the same time they are also actively involved in the evaluation of processes and related products.

The latter will be of increasing importance in the future, as scientific research has been initiated in connection with reflections of certain PBL (Process-Based Learning) methods. It is the intention of this kind of research to support students with regard to the awareness of their personal learning styles. The findings are then made accessible for future work in a broader context.

Design innovation, which essentially means the definition, development, and creation of new concepts and their successful launch, is the driving factor for a powerful, competitive economy and the prosperity of society. Therefore, the education of professionals at universities and the continuous development of architects, engineers, urban designers, sociologists, etc. in the wide field of design innovation are of central importance in particular when we are trying to cope with the global challenges to jointly develop and implement sustainable processes. These processes have to respect efficiency (in the use of limited resources), sufficiency (by reducing the wishes to the necessary), and congruence (by fostering and reinforcing recyclable products).

Pedagogic Model

The students are at the centre of *elope*'s working model. They build multidisciplinary teams with one (or two) student(s) coming from each profession. Since they originate from different universities around the world, they bring together different methodologies to tackle a task and have access to an attractive set of faculty coaches. After the kick-off weeks, the students work in non-located, distributed, interdisciplinary teams – as they would do in practice, each administering his/her disciplinary contribution but also assuming responsibilities for the entire process and product as a team member. The faculty members of the partner universities and the mentors from the industry/client act as consultants and coaches on call of the teams.

Experts and mentors from the building and construction industry who are not part of the university are an additional and essential part of *elope* courses. Their participation contributes a high degree of practical knowledge to the projects, pointing out the actual «state of the art». In this manner, *elope* manages to link academic education and professional practice. The intensive interaction between these two elements guarantees a rapid transfer of technology, while at the same time ensuring that the students involved are highly motivated.

The evaluation of the project results are in the duty of an international jury, which consists of at least one member of each discipline. Each team receives a jury report with an acknowledgement of the contributions according to initially specified criteria. *elope* puts a strong emphasis on the assessment and self-assessment of the processes by systematically requesting the students to reflect on the lessons learnt keeping Søren Kierkegaard's statement in mind that «life is lived forwards, but only understood backwards».

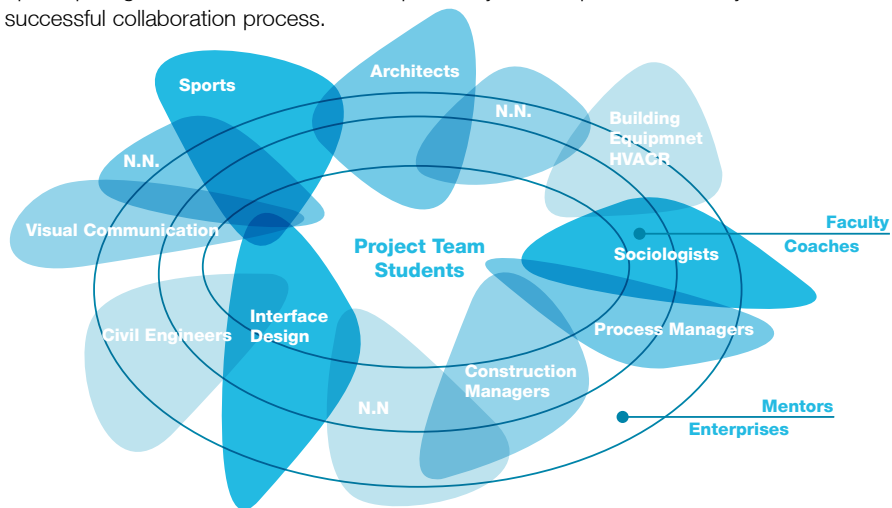
Responsibilities of *elope* and its Partner Universities

elope is a learning platform which enables and facilitates interdisciplinary processes. It has proven to offer an excellent test bed for research in the field of modern teaching and learning as well as in the area of evaluation of novel learning spaces.

The Bern University of Applied Sciences, School of Architecture, Wood and Civil Engineering (AWC/BUAS) assumes the responsibility of organizing the course (kick-off weeks, review meetings, coaching sessions, debriefing, etc.), of defining the task together with the partner universities and

of co-ordinating the partnership with the client. The *elope* team provides the necessary documentation for the course and offers an introduction to information and collaboration technologies. At the same time, it is important to put on record that the responsibility for the disciplinary supervision of the students remains with the sending home universities. A close coaching accompaniment and monitoring of the project by the faculty of the partner universities is essential and requested by *elope*. The participation of the responsible coaches during the kick-off events, the coaching sessions, the reviews, and the final presentations will add to the interdisciplinary depth and thus to the quality of the projects. This responsibility also relates to the grading of the students' contribution. The *elope* jury will provide a qualification on the team processes and on the entire teams' interaction patterns. Finally, it is suggested that students who successfully participate in *elope* projects receive academic credits (e.g. based on the ECTS). The workload is estimated to range between 30–40% on average during the entire semester.

The experience during the previous *elope* courses has revealed that this double responsibility of the student towards his/her *elope* team and towards the home university and professors, respectively, may also bear conflicts. *elope* demands that team decisions be respected concerning the approach and the agreed objectives; *elope* leaders are convinced that within this framework there is still ample tether to adhere to high academic standards in the disciplinary work. The involved faculty members will be invited to contribute their views in the definition of the task. They will receive full access to all documents of the *elope* project as well as to the communication software used in the project. Guaranteed access to a video conferencing system (e.g. Polycom, Tandberg, etc.) for participating students remains in the responsibility of each partner university and is essential for a successful collaboration process.



Structure of the Course

Phase A | CW 38 – 40 2010

Virtual kick-off | Infrastructure

Instructions on ICT: The students get an introduction into communicating through ICT. Therefore, all students attend a video conferencing workshop on how to use the communication tools (video conferencing for review meetings, exchange of documents, and design process management).

Collecting and Recording

While getting to know the communication tools, the students receive an introduction into research, collecting data and distributing information. How to get a deeper impression/understanding of the topic. This important background will allow for a well-founded start into the project and to elaborate meaningful solutions.

Phase B | CW 41 2010

Kick-Off in Switzerland | Team Formation

It proved extremely important to build a profound social link among the students as the basis for a solid collaboration during the course of the project. With physical presence in Switzerland (Bern) all students and faculty members come together mainly for the following purposes:

Lectures on Specific Topics

Several lectures are given to facilitate the start-up for the project with respect to a common nomenclature. Critical aspects of the project are addressed by the lectures, given by faculty and also experts from the construction industry.

Project Planning

Definition of the project's process outline/plan: At the end of the kick-off week, the teams are to present a project plan including work packages, time line, definition of milestones, resource planning, schedule of further activities, etc. The presentation of the project plan to faculty, mentors, and experts from industry concludes the kick-off week, dismissing the students to their home universities with comments and recommendations for the further course of the project.

Research on-site

The students are given the unique opportunity to meet the client and collect information offered by the municipal government and the academic team.

Research Field – Health and Architecture

Phase C | CW 42 2010 – CW 2 2011

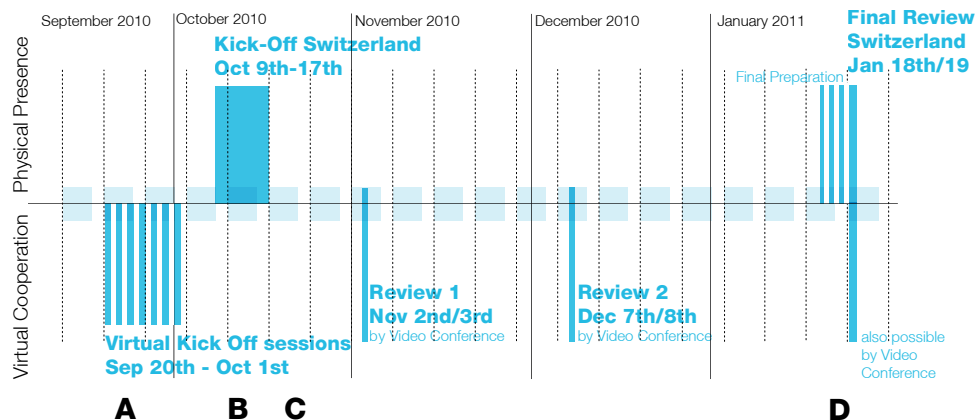
Back at Home University | virtual collaboration

The goal of the third phase is to develop the design, to formulate expertises and to create solutions. After the introductory days, the students return to their home universities. At the same time, they form local teams at the different locations to exchange basic information useful for all project teams. The planning as well as the manufacturing of models or project documentations are managed over elope's information platform. The teams will present the stage of their work on two intermediate reviews by using videoconferencing systems. Between the reviews, the teams organize weekly/regularly coaching sessions together with their local coaches.

Phase D | CW 3 2011

Final Presentation of the Project | physical and virtual

The final presentation has the goal to show the project's results to the client, to the municipal administration of Reinach (Basel-Landschaft) and to the local population and to offer possibilities for a discourse with potential users. It is recommended (but not obligatory) to arrive one week in advance in Switzerland to prepare together with the team-members the final presentation.



In our continuously growing urban society the health of human beings is increasingly influenced by the built environment. Therefore, the dependence of health and architecture shall be investigated: Health-related and design-relevant indicators will be described and made available for the architectural design process.

Strategies of change are sought which enable a (re-)design of the built environment in such a way that negative influences can be reduced or avoided and positive elements are fostered and strengthened. A continuously growing kit of architectural elements, sociocultural measures, and trans-disciplinary methodologies shall support and allow for an adequate development of design processes which have the «healing and healthy environment» as their objective.

An existing framework in today's context shall form the focus of our investigation with the aim of identifying potentials for change and to develop effective strategies towards a sustainable, health-driven design for the built environment.

«Life can only be understood backwards;
but it must be lived forwards.»

Soren Kierkegaard



Project Task

A new concept for a public indoor swimming facility has to be developed which fulfills the requirements of Olympic swimming standards as well as the needs of regional communities in the greater area of Basel. The building to be developed will integrate visionary designs and respect sustainable maintenance standards by giving answers to the following challenges:

Local Integration | Urban Placement

Needs of the local, regional and national communities are met in a synergetic way to foster social interaction for the stakeholder groups. This aspect is important since the project has to undergo a political process of approval before its realization and must, hence, successfully satisfy a public service.

Design Development | Structure and Material

The project shall give answers to the question how concrete can be integrated in the industry partner's (CEMEX) innovation strategy. The project shall address the aspects of acceptance of concrete for urban infrastructures in transformation processes, for example with respect to structure, free form surfaces, haptic quality and comfort, thermal and acoustic behavior, water-repellent and hygienic characteristics.

Building Technology | 3 x 0

Triple zero means: zero emission, zero energy and zero waste generation during construction, usage and deconstruction by using innovative building materials and building technologies as well as by visionary architectural design concepts.

Landscape | Ecology | Natural and Technical

The new facility positively contributes to the bioclimate of the location and offers an emission-free traffic to the new venue.

Economy

Traditional swimming pools often create deficits. Therefore: Is the proposed sports facility covering its lifecycle costs? Business concepts for short term (planning and realisation) and long term (operation and dismantling) scenarios have to be developed.

During the kick-off the students will get a detailed task and program description, developed in cooperation with all faculty members of the partner universities which also integrates the boundary conditions established by the local government and the national ministry of sports.



