PRACTICAL GUIDE

Supporting the Development of a University Curriculum

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The purpose of this guide

Developing a curriculum means making changes on a small or a large scale in order to improve the quality of the students’ training, the functioning of the teaching team, and conformity with directives or recommendations, etc. It can be anything from formalizing learning outcomes to a complete overhaul of a curriculum.

As faculty developers, we are often asked to help with curriculum development at the University of Geneva (UNI-GE) and the University of Lausanne (UNIL). We have created this guide to formalize our approach and build a common reference to guide and provide tools for our support work. In the spirit of sharing experience, we wanted to make this information available to anyone who may also wish to support the development of a curriculum, whether that be at our universities or elsewhere.

This practical guide has the goal of making the work of those supporting or coordinating a university curriculum easier. It may concern the creators of the curriculum, educational coordinators, instructors, teaching teams, and faculty developers.

It consists of:

- possible steps for the support process
- an approach comprising:
  - objectives for each step
  - proposed actions to carry out in order to meet objectives
  - examples of questions to ask others or oneself
  - available tools and resources

This document reflects higher education in Switzerland, but is also generic enough to be adapted outside of Switzerland. It is available as a Word document for those who wish to modify it. This document is designed to be updated to reflect the current needs in curriculum development and the practicalities of support. Suggestions for the improvement of this guide are welcome.

Anyone at UNIGE or UNIL can contact us at any time for further information about the content of this guide, advice on specific steps, and/or for guidance regarding specific resources needed, etc.

* Multiple aspects of this guide were taken and adapted from the documentation developed at UNIGE and UNIL (website, memos, resources, internal directives, etc.). A complete list of consulted sources is available on page 21.
Definitions

In this document, the term “curriculum” is used as a synonym for “program of study” to refer to any program which, on completion, leads to a higher education degree (Bachelor’s, Master’s, etc.).

The “team” is the group of people working together on the curriculum development process.

The “support people” are those who advise and support a person or team in the curriculum development process.

The “learning outcomes” are what the students will be capable of at the end of a given learning period (for example, a class, a module, or a curriculum). This expression is used here as a synonym for “educational objective” or “learning objectives.”

The following acronyms are used in this guide:

**AAQ**  Swiss Agency of Accreditation and Quality Assurance

**ECTS**  European Credit Transfer and Accumulation System

**EEE**  Teaching Evaluations by Students

**ESG**  Standards and guidelines for quality assurance in the European Higher Education Area

**NQF**  National Qualifications Framework (in Switzerland: nqf.ch-HS)

**SWOT**  Strengths, weaknesses, opportunities and threats analysis

**UNIGE**  University of Geneva

**UNIL**  University of Lausanne
How does one support the development of a university curriculum?

The proposed approach is meant to guide and equip those supporting the development of a curriculum with practical benchmarks. It is largely based on the experience of educational centers at UNIGE and UNIL as regards curriculum development. It is not a prescriptive model but rather a general suggestion to modify based on specificities of the curriculum, the context, the resources, and the time available, etc.

The steps in curriculum development, and the support person’s work, can vary depending on whether the work consists of helping the team implement a minor change or major overhaul. It may be necessary to complete some steps multiple times. Some steps may overlap or be completed in a different order. The development process is iterative and may be repeated as needed.

The following pages describe this approach and provide specific action suggestions, questions, and possible resources for the support person. The resources are meant to support the guide but are certainly not exhaustive.
### Review of Steps and possible resources

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How to support the development of a curriculum
1 RECEIVE THE REQUEST FOR SUPPORT

The first call or email about the development of a curriculum is the beginning of the support process. This first exchange allows the supporter to prepare for the first meeting with the team.

1ST OBJECTIVE Collect information about the contact person and the first meeting

What can I do?
- Take notes during a call, archive the email
- Identify the origin of the request and learn about the contact person
- Clarify the context of the first meeting and the type of intervention expected of me
- Start a log to keep track of the support process

A few questions to ask myself
- What type of curriculum is it?
- Who is making the request? What is his/her role and position?
- Where is the request coming from: is it a top-down or bottom-up approach?
- How will the first meeting be structured and who will be present?
- Is the team aware of my attendance and open to my intervention?
- What is the purpose of the meeting?
- What is expected of me for the first meeting, e.g. should I prepare something?

My resource
Logbook outline (Annex 1)

2ND OBJECTIVE Familiarize myself with the curriculum

What can I do?
- Consult and print important curriculum documents
- Learn the quality and educational value of what is already present in the curriculum

A few questions to ask myself
- What kind of framework does the curriculum have?
- How is the curriculum organized?
- Who is involved with the curriculum?
- Is the focus more theoretical or practical?
- Has the curriculum already been evaluated informally or by an institution?
- If it’s for a Master’s program, has any development already been done for a Bachelor’s program? If yes, what?

My resource
- Current curriculum and regulations for the program
- Introductory brochure and website for the curriculum
- List of people involved with the curriculum, organization chart
- Website or progress report from the faculty, unit, or educational center
- Evaluation reports
2 MEET THE PEOPLE INVOLVED IN THE PROCESS

There should be a project overview at the first team meeting. It should clarify each person’s role and lay the groundwork for collaboration methods to be used in the future.

1ST OBJECTIVE Outline the project

✍️ What can I do?
- Reaffirm the scope of the meeting and the origin of the request
- Define the project in an overview
  - If it’s coming from the team (bottom-up), have the team clarify the request or project
  - If it’s imposed upon the team (top-down), remind the team of the reasons for the project, including:
    - the curriculum
    - the institution
    - the national and international requirements as pertains to particular issues (diploma readability, employability, mobility, quality, etc.)
    - the current knowledge in university education (principles and teaching impact)
    - the experiences from other curricula
- Present the possible steps for the development of the curriculum

❓ A few questions to ask myself
- In what way do we want to develop the curriculum and why?
- What kind of context does this project fall under?
- Is the project understood and shared?
- If not, how do you share with the team about the purpose and usefulness of the project?
- Are certain steps already planned?
- What is the extent of the planned project?
- Is there an estimated time frame?
- Are there already planned deadlines?
- Is there an estimation of available resources (time, people, positions, etc.)?
- Is this project to be completed using the methods of scientific research (SoTL approach)\(^1\)? If so, what are the implications for future steps?

💾 My resources
- Bologna Principles (UNIGE\(^2\))
- Standards and guidelines for quality assurance in the European Higher Education Area (ESG\(^3\)) and in Switzerland (AAQ\(^4\))
- Recommendations from swissuniversities\(^5\), presentation of the NQF (Annexes 2-3)
- Strategy, quality policy and institutional directives
- Quantity and quality data on the curriculum (statistics, evaluation results, etc.)
- Research results for university education
- Reasons for modifying a curriculum (UNIGE\(^6\))
- Testimonies or experiences from other curricula
- Curriculum development process diagram (Annex 4)
2ND OBJECTIF  Clarify each person's role and find an agreement for collaboration methods

What can I do?
- Allow each person to introduce themselves and their role in the project, and let them express their questions, ideas, fears, reservations, etc.
- Consider possible collaborations
- Explain different possible support methods, such as:
  - supplying resources and/or tools
  - participating in meetings
  - moderating discussions
  - proposing custom training
  - rereading documents and giving feedback
  - doing research on current trends in education
  - offering educational advice (individual or collective)
  - networking, sharing experiences
- Define the “mandate/operational charter”, ideally in writing

A few questions to ask myself
- What is the role, the level of involvement, and the flexibility of each person present?
- What is each person's attitude or position towards the project?
- What is the leadership structure of the group?
- Will the project leader stay the same over time? Are there alternatives ready in case of a change?
- Which people should be involved in the project from the beginning, considering their competencies, credibility, responsibilities, etc.?
- Are there already strategic collaborations and/or potential allies in play?
- Do sub-groups need to be formed?
- Should representatives for each body associated with the curriculum be identified?
- Does an faculty developer need to be included in the project?
- Are other institutional services involved?
- What is expected of me and how can I help?
- What is my level of involvement, my role, my assigned tasks?
- How much autonomy does the team need?
- What are the next steps?
- Who will I have contact with and who will initiate contact?
- What is the preferred method of communication?
- How much confidentiality is desired?

My resources
- Presentation or document showing my involvement in writing
- Description of the curriculum development process (UNIL®, UNIGE®)
- Summary outline for the first meeting (collaboration “contract”) (Annex 5)
3 HELP THE TEAM ANALYZE THE EXISTING CURRICULUM AND ITS CONTEXT

The team can complete an assessment of the existing curriculum and analyze its general context. This step allows for the review of all information closely, and more distantly, related to the curriculum.

OBJECTIVE Identify and interpret data on the current curriculum and its context

What can I do?
- Review existing documentation and data on the curriculum and its context
- Decide how to collect future data as needed (via surveys, meetings, focus groups, discussions, etc.)
- Identify any groups affected by the curriculum and encourage them to contribute to the analysis.
- Focus the analysis on:
  - the attractiveness of the curriculum
  - the discipline(s) taught in the curriculum
  - the learning outcomes
  - the structure (including ECTS) and the internal coherence of the curriculum
  - the teaching and evaluation methods used
  - the direction of the curriculum
  - the opinion of those involved in the curriculum
  - the impact of the training on students and graduates
  - any contextual elements (the institution, its rules, etc.)

A few questions to ask myself
- What data can we use, and what data is missing?
- How has the number of students evolved over time? Why have they chosen this curriculum?
- What is particular about the disciplines taught?
- Is the discipline of the curriculum connected to other disciplines?
- What are the goal level of expertise and competency for the curriculum? Are they compatible with the NQF? At the end of the training, are they attained?
- What sets the graduates apart from graduates of similar programs elsewhere?
- How well does the curriculum allow for mobility, continuing education, and professional experience?
- Are the teaching and evaluation methods adapted to the objectives and student population?
- What is the local educational culture?
- How is the curriculum led and who participates? Who makes the decisions (officially or unofficially)?
- Is there a planned change of leadership or organization?
- Are there established links to other curricula?
- What are the strengths and weaknesses of the curriculum according to students, graduates, instructors, colleagues, socio-economic partners, etc.?
- What do we learn from the results of teaching evaluations by students (EEE)?
- Does the curriculum conform to institutional, national, and European requirements?

* Some teams may prefer to start by defining a shared vision (see step 4).
My resources

- Current curriculum and regulations for the program
- Curriculum map
- Advice for curriculum data collection (UNIL\textsuperscript{9} and UNIGE\textsuperscript{10})
- Quantity and quality data on the curriculum (statistics, EEE results, etc.)
- European and national guidelines, such as Bologna, ESG, NQF (Annex 3)
- Institutional evaluation criteria for curricula (UNIGE\textsuperscript{11} and UNIL\textsuperscript{12})
- SWOT or half-SWOT (Annex 6)
- Grids for visualizing the internal coherence of a curriculum (Annex 7)
- Grids for checking ECTS attribution (Annex 8)
4 HELP THE TEAM DEVELOP THE DESIRED SHARED VISION FOR THE CURRICULUM

The team must look to the future and see where they are headed. They must see the curriculum as it could be in order to establish an approach that unifies everyone involved.

OBJECTIVE Find an inspirational vision for the curriculum

What can I do?
- Encourage the concerned groups to participate in brainstorming (via representatives during discussions, investigations, and interviews, etc.)
- Moderate discussions and steer brainstorming towards the goal, especially concerning:
  - the attractiveness of the curriculum, its pertinence, and its position
  - the desired effects for graduates
  - the pedagogy to use
  - interdisciplinary potential
  - students’ learning experience
  - the functioning of the curriculum and the coordination of the teaching team
  - the alignment with directives and recommendations across all levels
- Research current trends in higher education in the concerned disciplines
- Suggest pertinent bibliographical references, theoretical models and concepts, etc.

A few questions to ask myself
- What is the desired effect? What would make this curriculum more appealing?
- How could this curriculum better respond to the needs of individuals and society as a whole?
- Should the training be updated for current advances and professions?
- What is the profile of the graduate we want to train?
- What knowledge, skills, values, and attitudes can we expect from the graduates?
- Which of those are necessary for further education or work experience?
- Can we better match the desired skills with NQF descriptors?
- How do we want to teach and how do we want our students to learn?
- What are the current trends for education in the concerned discipline(s)?
- Do we want to develop or reinforce interdisciplinarity? How?
- Can the pedagogical coherence of the curriculum be reinforced?
- Can the student workload or ECTS be changed?
- How can we reinforce the strengths and fix the weaknesses of the curriculum?
- How do we want to work as a team to confer and collaborate?
- Can the curriculum better meet institutional, national, and European requirements?
- What concepts or theories can inspire us and build our references?
My resources

- European (Bologna, ESG, etc.), national (swissuniversities, AAQ, etc.), and institutional (strategy, quality policy, values, curriculum evaluation criteria, etc.) directives
- Skills checklists for relevant professions, documents from professional bodies or associations, job offers, job descriptions
- Models for similar training offered elsewhere, websites of other institutions
- Advice for drafting learning outcomes (UNIL\textsuperscript{13}, UNIGE\textsuperscript{14})
- NQF descriptors and examples (Annex 3)
- Program approach presentation (UNIGE\textsuperscript{15}), characteristics of an innovative program (UNIGE\textsuperscript{16})
- Techniques from World café\textsuperscript{17}
- Educational literature (see suggestions on page 23)
The team must decide on the changes needed to go from the existing curriculum to the desired one while keeping in mind hindrances and aids to innovation, and receive the necessary approval.

1ST OBJECTIVE  Identify the gaps to fill and the hindrances and aids to change

What can I do?
- Research the extent of the gap between the current and the desired situation
- Encourage the team to find what could improve and what could eventually hinder the development process
- Guide brainstorming towards possible changes, especially concerning:
  - people and groups affected by the planned changes
  - academic and institutional policies and priorities
  - available or potential material, human, and financial resources
- Research similar planned projects currently underway or previously completed in the concerned institution or elsewhere

A few questions to ask myself
- How is the current curriculum different from the desired curriculum?
- What is the extent of the change to go from one to the other?
- Is the team aware of, and ready to do, what is necessary?
- Who will be affected by the planned changes? How?
- Will the changes engage new collaborations with new people or sharing with another curriculum?
- Will relationships already in place with other groups be affected?
- What kind of reactions (enthusiasm, resistance, etc.) can be expected to the changes?
- What is the local and institutional culture in regards to educational innovation?
- What could motivate and encourage people to participate in the changes?
- How will the project be articulated with the priorities or projects of the faculty or institution?
- What are the approximate costs of the various planned options?
- What material, human, and financial resources would be required?
- Will the resources on hand be enough to allow for the planned changes?
- Will the resources be available long-term to ensure a lasting change?
- Would it be possible to find outside funding (ex. funds, subsidies)?
- What kind of help can be expected from the educational center?
- Have other teams undertaken a similar project and can they advise us?
- Could we benefit from innovations in other contexts?

My resources
- The institution’s strategy and mission statement
- Faculty plan report
- Preliminary estimation of resources and costs chart linked to planned scenarios
- Websites for bodies that might provide funding (services, funds, commissions)
- Website or progress report from the educational center
2<sup>nd</sup> OBJECTIVE   Establish objectives for the curriculum modification and get them approved, if necessary

What can I do?
- Propose a SMART objective checklist, that is:
  - Specific
  - Measurable
  - Attainable
  - Relevant
  - Time based
- Suggest pertinent priorities, such as:
  - institutional, national, and European requirements
  - current trends in higher education pedagogy
  - the context of the curriculum, the hindrances and aids to the change
  - the scope of the desired changes
- Help the team present the project in different contexts to secure the necessary agreements and support

A few questions to ask myself
- How will we ensure there is a shared goal for the curriculum?
- How do we want to transition from the current to the desired situation?
- What are the priorities among the planned changes?
- What do we want to keep from the current curriculum and what do we want to change?
- Does the change need to be made to the entire curriculum or just to a part of it at first?
- Are the objectives “SMART”?
- Are they in line with requirements from different levels?
- Are they consistent with what we know about student learning in higher education?
- Are they in line with the context (policies, resources, people involved, etc.)?
- Who should the project be presented to before starting the changes (commissions, dean, participatory council, rectorate, etc.)?
- Does a person or a body need to adjudicate or validate the project?

My resources
- SMART objectives checklist
- European, national, and institutional guidelines
- Research results for university education
- Presentations and/or documents to present the project and justifications
6 HELP THE TEAM PLAN THE CHANGE

The team should clarify what actions to take in order to complete the planned objectives, the responsibilities of each person, how the team should coordinate, and what the deadlines are.

OBJECTIVE Establish a shared work environment and detailed procedures

What can I do?

- Offer to:
  - design an action plan and calendar
  - identify the roles and responsibilities within the team
  - plan for the resources (human, financial, and material) required for the project
  - outline means of communication and collaboration
  - design measures for follow-up and evaluating the completion of objectives
- Consolidate this information in a written document

A few questions to ask myself

- What are the deadlines for each objective?
- What actions must be undertaken and in what order?
- How are those actions staggered in time and how long do they last?
- What approval procedures are necessary and what are their deadlines?
- How will the students using the current curriculum transition?
- Who will orchestrate the changes?
- Who is involved in the process and what are their roles and responsibilities?
- To what extent is an faculty developer involved?
- What resources will we need and when? How will we obtain them?
- What costs are associated with these resources?
- How many meetings will we need?
- What are the best times and locations for meetings?
- What tools does the team need to share information and work together?
- How and how often will we check on the progress of the action plan?
- What are the best methods to measure the project implications?
- When should we use these methods? With which groups?

My resources

- Action plan outline and calendar example (Annex 9)
- Gantt diagram (for example Gantter, Office Timeline), mindmap
- Schedule or timeline
- Shared calendar
- Sharing and collaborative work tools: server space, Dropbox, SWITCHtoolbox, Plone, connect.unige.ch, Google Drive
- Detailed budget
7 HELP THE TEAM IMPLEMENT CHANGES

The team should undertake the planned actions without losing sight of the objectives and keeping in line with the established plan. It's important to inform and train those affected by the change.

OBJECTIVE  Keep an eye on the progress of the project and support the participants

What can I do?
- Provide advice and tools for the implementation of educational changes, such as:
  - help with the writing and/or the revision of learning outcomes
  - review the internal coherence of the curriculum
  - update the teaching and evaluation methods
  - rethink the ECTS breakdown
- Inform the community of changes underway
- Allow the appropriate people to take on-board the changes, for example:
  - advise instructors on how to plan out their lessons within a specific approach/program
  - inform and train instructors about new teaching methods (via workshops, practical guides, personal consultations, etc.)
  - inform and train students about new learning methods (info sessions, flyers, information and resources on the website, etc.)
- Suggest that everyone make note of their work and/or observations to later share them with the team
- Document the progression of the action plan

A few questions to ask myself
- What does the team need and how can I be useful?
- When and how should everyone be informed about the changes made?
- What kind of support are we offering instructors?
- What kind of support are we offering students?
- Is the action plan being followed?
- Are there obstacles?
- What are everyone’s observations during this phase?

My resources
- Readings, practical guides, and information about innovative educational practices
- Advice for writing and using learning outcomes (UNIL, UNIGE)
- Available training and support from the educational center
- NQF descriptors and examples (Annex 3)
- Grids for visualizing the internal coherence of a curriculum (Annex 7)
- Grids for checking ECTS attribution (Annex 8)
- Advice for ECTS calculation (UNIL, UNIGE)
- Electronic logbook, exchange platform, forum
- Action plan follow-up with eventual integration with the budget follow-up (Annex 9)
8 HELP THE TEAM EVALUATE THE FULFILLMENT OF ESTABLISHED OBJECTIVES

Once the change has been implemented, the team can check if the curriculum corresponds to the common goal developed by the team. The team must identify whether or not the observed effects correspond with the goal.

OBJECTIVE  Measure the obtained results and compare them to the goal

💡 What can I do?
- Work towards the collection, analysis, and interpretation of quantitative and qualitative data on the curriculum:
  - organize existing data (registrations, exam results, dropouts)
  - collect additional data from interviews, round tables, focus groups, surveys, etc.
  - encourage peer teaching observations and/or participate in observations
  - analyze documents via a checklist or grid
  - etc.
- Think about how the changes affect different levels, for example:
  - different aspects of student learning
  - the satisfaction of those involved in the curriculum
  - the dynamics of the teaching team
  - the quality of the curriculum (attractiveness, coherence, readability, conformity with directives, etc.)
- Ask the team to identify potential obstacles to meeting objectives and determine what new questions have arisen

❓ A few questions to ask myself
- What data do we have to verify fulfillment of objectives?
- Does additional data need to be collected?
- Are the people involved (instructors, students, administrative and technical personnel, etc.) happy with the changes?
- What are the results of the new EEE evaluations?
- What do statistics reveal about the number of registrations?
- What do student exam results reveal? Have the learning outcomes been met?
- Have the program duration and success rate changed?
- What have the students gained in terms of skills and professional abilities?
- How have their outlook, level of motivation, and learning strategies changed?
- Does the educational team function differently or better?
- Is the curriculum in alignment with directives?
- Have all the project objectives been reached and if not, why?
- Are there new questions or objectives?
My resources

- Quantity and quality data on the curriculum (statistics, EEE results, etc.)
- Advice for curriculum data collection (UNIL\textsuperscript{31} and UNIGE\textsuperscript{32})
- SWOT or half-SWOT (Annex 6)
- Grids for visualizing the internal coherence of a curriculum (Annex 7)
- Grids for checking ECTS attribution (Annex 8)
- European, national, and institutional guidelines
- Institutional evaluation criteria for curricula (UNIGE\textsuperscript{33} and UNIL\textsuperscript{34})
- Suggestions and resources for teaching observations in pairs (UNIGE\textsuperscript{35})
- Teaching observation grid (Annex 10)
9 HELP THE TEAM FINE-TUNE THE NEW CURRICULUM

Based on evaluations, the team can now identify what is left to do to finalize the change from the old to the new curriculum. They can also establish long-term support measures.

OBJECTIVE Identify how to modify the curriculum in the short, medium, and long term

What can I do?
- Suggest that the team repeat steps 5 through 9 as needed
- Suggest support measures that will allow fine-tuning of the curriculum over time

A few questions to ask myself
- What needs to be done to finalize implementation of the changes?
- What can be improved in the short, medium, and long term?
- What steps are necessary from this point forward?
- Are other evaluations necessary? If yes, how often and in what form?

My resources
- Action plan outline and calendar example (Annex 9)

10 SHARE AND PROMOTE THE FINISHED WORK

Showcasing the project is important to highlight everyone’s contributions. This also spreads the word about the new curriculum and inspires others.

OBJECTIVE Share and promote the success of the experience

What can I do?
- Collect testimonies and make them public
- Present the project and its results inside and outside the institution
- Spread the world on social media (websites, social sites, newsletters, journals, portals, flyers, blogs, conferences, reviews, etc.)

A few questions to ask myself
- Who can promote or honor the accomplished work?
- What groups or networks might be interested in the project?
- Could the project be featured in an article or scientific journal?
- What lessons learned from this project can be useful for others (advice, recommendations, traps to avoid, etc.)?

My resources
- Presentations and/or documents presenting the project
- Video clips, articles
- Scientific journals and university education conferences
Documents consulted for the development of this guide


Our thanks to the members of the interest group for curriculum development from the Swiss Faculty Development Network (SFDN, www.sfdn.ch) for sharing their experiences and their feedback on the first draft of this guide.
Links for websites cited in this guide

5. https://www.swissuniversities.ch/fr/
17. http://www.theworldcafe.com/
22. https://www.dropbox.com/
23. https://toolbox.switch.ch/fr/
34. http://www.unil.ch/cover/home/ menuguid/documentation/cursus.html
Useful resources

To complement the aforementioned references and websites, here are a few suggestions for readings, organized by theme, that can inspire curriculum development and its support.

**Higher education pedagogy and educational innovation**


**Conception, development, and evaluation of a curriculum**


Change support


***

Also useful:

- UNIL Teaching Support Center website: unil.ch/cse
- UNIGE Center for Teaching and Learning website: unige.ch/soutienprogrammes
Annexes (tools)

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Annex 1. Logbook outline

The logbook is used to note procedures during the entire process. It is useful to keep track of your activities to both stay on track and to note how much time has been dedicated to one curriculum in particular. This also allows someone else to take over easily if necessary.

The logbook can contain the following information:

<table>
<thead>
<tr>
<th>Curriculum name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
</tr>
<tr>
<td>Note when each request came up (day, month, semester, year)</td>
</tr>
<tr>
<td>Request</td>
</tr>
<tr>
<td>Note what kinds of requests come up during the support process</td>
</tr>
<tr>
<td>Who</td>
</tr>
<tr>
<td>Who is dealing with the request (if more than one support person)</td>
</tr>
<tr>
<td>Activities</td>
</tr>
<tr>
<td>Describe the completed tasks (preparation, meetings, research, document preparation, etc.)</td>
</tr>
<tr>
<td>Comments</td>
</tr>
<tr>
<td>It is useful to note pertinent information while carrying out activities (team reactions, attitudes, any obstacles or aids, questions, etc.)</td>
</tr>
<tr>
<td>Time</td>
</tr>
<tr>
<td>Number of hours dedicated to each activity</td>
</tr>
<tr>
<td>Resources</td>
</tr>
<tr>
<td>List new and old resources for the curriculum</td>
</tr>
<tr>
<td>Location</td>
</tr>
<tr>
<td>Whether files are saved in paper or electronic form, note their location and/or provide links to files</td>
</tr>
</tbody>
</table>
Annex 2. NQF Presentation*

History
1999 The Bologna Declaration is signed in 29 European countries including Switzerland. Its aim is to build a European space for Higher Education (EEES)
2005 The adoption of the Qualifications Framework for the European Higher Education Area, QF-EHEA
2008 The adoption of the European Qualifications Framework for Lifelong Learning, EQF
2011 The Swiss University Conference (CUS) adopts a national framework compatible with the European framework, the Qualifications Framework for Swiss Higher Education (“nqf.ch-HS”)

NQF objectives (nqf.ch-HS, p. 1).
- “orient universities during the development and description of their curricula”
- improve “the information about the lessons offered by the Swiss university system”
- help with “the comparability of degrees in Europe and increase transparency”.

Content
NQF describes the training levels and acquired skills in the Swiss system for higher education. For each study cycle, it defines:
- generic descriptors or the expected results at the end of the program
- admission requirements
- ECTS Credits
- degree names.

Descriptor categories
The national framework descriptors are organized in five categories (nqf.ch-HS, p. 7):
1. “Knowledge and comprehension
2. Application of knowledge and comprehension
3. Ability to make determinations
4. Communication know-how
5. Solo learning abilities”

These are generic descriptors, and as such are independent from disciplines. They should be developed and adapted to each program of study.

* This annex reuses key elements from the document: CRUS - KFH – COHEP (2011) “Cadre de qualification pour le domaine des hautes écoles suisses” (nqf.ch-HS).
Advice for writing learning outcomes when implementation of NQF is an institutional project:

**Bottom-up approach:** starting with existing objectives and completing or modifying them as needed

If objectives already exist, e.g. for course levels, these can be assembled, summarized, and compared with the 5 NQF descriptors. This will show if they are covered by existing objectives. If this is not the case, they can be modified by removing redundant objectives and filling gaps.

**Top-down approach:** starting with NQF descriptors and forming them into curriculum objectives

When a new curriculum must be established with no existing base, or when the objectives need to be rethought without necessarily referring to the previous objectives, the five NQF descriptors can be used as a base to form curriculum objectives. When starting from the top, the objectives are sure to be in line with the generic descriptors.
Annex 3. NQF Descriptors for Bachelor’s and Master’s

The qualifications are awarded to students who...

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>BACHELOR’S DESCRIPTORS</th>
<th>MASTER’S DESCRIPTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Knowledge and comprehension</td>
<td>“... have acquired knowledge and a level of comprehension in a domain that follows and is based on a secondary degree education. Their knowledge at this level is based on advanced textbooks and uses elements from research and cutting-edge scientific publications in this domain.”</td>
<td>“... have proved their knowledge and a level of comprehension that follows or reinforces what was important in the Bachelor’s degree. These achievements form a base of possibility to develop or use original ideas, usually within a work of research.”</td>
</tr>
<tr>
<td></td>
<td>Example²: “describe the principle issues in geology, geography, and environmental sciences using basic concepts from these disciplines and similar disciplines.”</td>
<td>Example³: “identify and describe all the research methods that can be used to solve a problem in the specialized domain of biology.”</td>
</tr>
<tr>
<td>2. Application of knowledge and comprehension</td>
<td>“... are capable of using their knowledge and comprehension (in a pertinent way) in their further studies or career, and have proved their ability to elaborate and develop arguments and solutions to problems within their domain.”</td>
<td>“... can use their knowledge, comprehension, and capacities to solve problems in new or unknown situations in large or multidisciplinary contexts dealing with their study domain.”</td>
</tr>
<tr>
<td></td>
<td>Example: “apply basic pertinent scientific concepts (natural and/or human/social) to diverse disciplines and domains of geoscience and the environment.”</td>
<td>Example: “formulate open research questions and propose original hypotheses to explain natural phenomena in the specialized domain of biology.”</td>
</tr>
</tbody>
</table>

1 The descriptors come from the document: “Cadre national de qualifications pour le domaine des hautes écoles suisses” (nqf.ch - HS)
2 The objective examples from the Bachelor’s level come from the curriculum for the Bachelor of Geosciences and the Environment at UNIL.
3 The objective examples from the Master’s level come from the curriculum for the Master of Biology at UNIGE.
<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>BACHELOR’S DESCRIPTORS</th>
<th>MASTER’S DESCRIPTORS</th>
</tr>
</thead>
</table>
| 3. Ability to make determinations | "... are capable of finding and interpreting pertinent general or domain specific data in order to form an opinion that integrates a reflection on social, scientific, or ethical problems".  
Example: “decipher and critically summarize the scientific writings in French and in English in one of the three disciplines/domains (geology, geography, or environmental sciences)” | "... are capable of integrating knowledge, mastering complexity, and forming opinions based on incomplete or limited information while reflecting on the social and ethical responsibilities of the use of their knowledge and decisions."  
Example: “identify and make a critical decision about the complex societal implications raised by the scientific research and its applications as well as historical, social, and ethical contexts of the biological research.” |
| 4. Communication know-how | "... are capable of communicating with a specialized and non-specialized audience about information, ideas, problems, and solutions."  
Example: “present and communicate an environmental, geographical, or geological problem in written and oral form as well as using diagrams and charts. Additional training objectives by approach are described in the curriculum.” | "... are capable of communicating clearly and without ambiguity to a specialized and a non-specialized audience about conclusions, knowledge, and underlying principles."  
Example: “produce texts destined for the public at large and the scientific community, as well as summaries destined for scientific communities to present scientific results in biology.” |
| 5. Solo learning abilities | "... have developed the necessary learning strategies to study in complete autonomy."  
Example: “choose an analysis method and apply it to interpret a geological problem.” | "... possess learning strategies that allow them to study in autonomy."  
Example: “organize one’s time to respect deadlines; work responsibly both alone and in a group; design an academic path according to one’s interests and personal and professional needs.” |
Annex 4. Curriculum development process diagram

This diagram shows the possible steps for developing a curriculum, from the perspective of the teaching team.

1. Outline the curriculum development project
2. Train the team and come to an agreement on collaboration
3. Evaluate the fulfillment of established objectives
4. Fine-tune the new curriculum
5. Share and promote the finished work
6. Start
7. Prepare
8. Explore
9. Follow-up
10. Implement changes
### Annex 5. Summary outline for the first meeting (collaboration “contract”)  

**Curriculum name**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeting date:</td>
<td></td>
</tr>
<tr>
<td>Name and position of those present:</td>
<td></td>
</tr>
<tr>
<td>Subjects discussed during meeting:</td>
<td></td>
</tr>
<tr>
<td>Goals of the team; request or project:</td>
<td></td>
</tr>
<tr>
<td>Deadline (if already set):</td>
<td></td>
</tr>
<tr>
<td>Team’s expectations for the support person:</td>
<td></td>
</tr>
<tr>
<td>Support person’s values and commitments:</td>
<td></td>
</tr>
<tr>
<td>Collaboration methods:</td>
<td></td>
</tr>
<tr>
<td>Others associated with the project:</td>
<td></td>
</tr>
<tr>
<td>Preferred means of communication:</td>
<td></td>
</tr>
<tr>
<td>Next steps (who does what, who contacts whom and when):</td>
<td></td>
</tr>
<tr>
<td>Resources attached to summary:</td>
<td></td>
</tr>
</tbody>
</table>
Annex 6. Overview of the SWOT or half-SWOT approach

An example of support to help the team undergo a SWOT or half-SWOT analysis (an analysis of strengths and weaknesses).

<table>
<thead>
<tr>
<th>S</th>
<th>W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strenghts</td>
<td>Weaknesses</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>O</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opportunities</td>
<td>Threats</td>
</tr>
</tbody>
</table>

Key words for the team’s main challenges can be added under the dial, such as coordination, attractiveness, motivation, pedagogy, etc., in order to focus the reflection on these particular aspects.

When making decisions, you can exchange elements in the matrix to clarify priorities.

A strength with an appropriate opportunity can become a priority because of its high potential to help develop the program, and a weakness that could be threatened further can become something to fix right away, etc.


**Annex 7. Grids for visualizing the internal coherence of a curriculum**

Warnier and al. (2010) propose an approach that consists of verifying educational coherence of a curriculum using grids. The grids below are adapted from their proposal.

You can verify the alignment of the teaching goals of the curriculum and:

- **the components of the curriculum**: “Which courses contribute to the goal of each teaching objective?”

<table>
<thead>
<tr>
<th>Teaching goals</th>
<th>Course A</th>
<th>Course B</th>
<th>Thesis</th>
<th>Internship</th>
<th>...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective 1</td>
<td>×</td>
<td></td>
<td></td>
<td>×</td>
<td></td>
</tr>
<tr>
<td>Objective 2</td>
<td>×</td>
<td>×</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Objective 3</td>
<td></td>
<td></td>
<td>×</td>
<td>×</td>
<td></td>
</tr>
<tr>
<td>...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **the evaluation methods used for the curriculum**: “What measures were used to evaluate each teaching objective?”

<table>
<thead>
<tr>
<th>Teaching goals</th>
<th>Multiple-choice questions</th>
<th>Written work</th>
<th>Oral exam</th>
<th>Project</th>
<th>...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective 1</td>
<td>×</td>
<td></td>
<td>×</td>
<td>×</td>
<td></td>
</tr>
<tr>
<td>Objective 2</td>
<td></td>
<td>×</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Objective 3</td>
<td>×</td>
<td>×</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **the educational activities proposed to the students**: “What activities allow the students to fulfill each learning objective?”

<table>
<thead>
<tr>
<th>Teaching goals</th>
<th>Lecture</th>
<th>Practical work</th>
<th>Group work</th>
<th>Case study</th>
<th>...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective 1</td>
<td></td>
<td></td>
<td>×</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Objective 2</td>
<td>×</td>
<td>×</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Objective 3</td>
<td></td>
<td>×</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This approach ensures that all the learning outcomes are covered. It also ensures that each objective is taught, and that a pertinent evaluation is in place to verify that the objective has been met. Multiple courses may target the same objective. Multiple objectives may also be integrated into a single educational activity and evaluated simultaneously.
Annex 8. Grids for checking ECTS attribution

Each instructor may be asked to count the number of hours required by his/her course each week during the semester. Students may also fill out the same form to compare estimated and actual hours.

<table>
<thead>
<tr>
<th>Week</th>
<th>Activities</th>
<th>Before the course</th>
<th>During the course</th>
<th>After the course</th>
<th>Week 1 total hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Read chapter 1</td>
<td>2</td>
<td></td>
<td></td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>Attend class</td>
<td></td>
<td>1.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Review notes</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Then a chart can be used for the hours in an entire curriculum to see if the hours are divided up appropriately.

<table>
<thead>
<tr>
<th>Components of the curriculum</th>
<th>Week1</th>
<th>Week 2</th>
<th>Week…</th>
<th>Total hours</th>
<th>ECTS Equivalent*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cours A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cours B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mémoire</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* 1 ECTS credit = 25 to 30 hours

Examples of activities to consider for the calculation of hours:

**Contact hours**
- Guidance (discussions, supervision, feedback, etc.)
- Presence in class (class time, exams, etc.)

**Personal work hours**
- Discussions and exchanges between peers
- Studying for tests
- Formative evaluation
- Exercises
- Lab
- Required and optional reading
- Production, projects
- Complementary research, documentary research
- Media consultation (videos, radio, etc.)
- Writing
- Internship
- Pair and group work
- Online work (teaching platform, wiki, forum, etc.)
- Note-taking, reviewing notes
Annex 9. Action plan outline and calendar

The action plan can be in the form of a chart. When planning, you can also include a column for foreseen costs (budget).

The chart can then be used to track completion of the project. You should include a place to label and comment on the status of each action (for example: in progress, complete, in difficulty, interrupted/unattainable). You can also link it up with information for real costs (to track costs).

<table>
<thead>
<tr>
<th>Actions</th>
<th>Resources</th>
<th>Person(s) in charge</th>
<th>Deadlines</th>
<th>Status as of...</th>
<th>Commentaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective 1 : ...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Action 1.1</td>
<td>...</td>
<td></td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Action 1.2</td>
<td>...</td>
<td></td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Objective 2 : ...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Action 2.1</td>
<td>...</td>
<td></td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Action 2.2</td>
<td>...</td>
<td></td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
</tbody>
</table>

The calendar can also be in the form of a diagram:

<table>
<thead>
<tr>
<th>UPDATING EDUCATIONAL OBJECTIVES</th>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>APR</th>
<th>MAY</th>
<th>JUNE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analysis of current educational objectives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verification of NQF compatibility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student consultations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meetings with external partners</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work in instructor sub-groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharing and finalizing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presentation to the Dean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revised objectives sent to Rectorate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Annex 10. Teaching observation grid

This grid can be used during peer observation or by a faculty developer. Other types of grids and their approach are given on the UNIGE website: www.unige.ch/labenseignement.

<table>
<thead>
<tr>
<th>Information on the context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructor:</td>
</tr>
<tr>
<td>Observer:</td>
</tr>
<tr>
<td>Date of observation:</td>
</tr>
<tr>
<td>Room:</td>
</tr>
<tr>
<td>Duration:</td>
</tr>
<tr>
<td>Number of students:</td>
</tr>
<tr>
<td>Elements to consider:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part of the course</th>
<th>Instructor actions</th>
<th>Reactions from students</th>
<th>Notes on various elements (positive, to work on)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Time, slide number, etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Practical guide
Supporting the Development of a University Curriculum
August 2017