

*Achievements Needed for Becoming a Professor*

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What is needed to become a professor? This article summarizes what selection committees often regard as the minimum achievements when recruiting new professors. My goal is to give early-career researchers a brief guideline on their way towards becoming a faculty member.

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**Introduction**

What is needed to become a professor? Often, you get foggy answers, especially when asking young researchers and those who want to become one. My intention for writing this article is to share this knowledge and shed light on what is often considered a secret among young researchers and postdocs. More importantly, I want to give them a guideline early in their career so that they can plan their actions towards achieving what is often considered a “baseline of achievement” for being appointed. With “baseline of achievement,” I refer to a set of commonly used key performance indicators under which selection committees measure candidates. By fulfilling these indicators, people will typically stop arguing that a person is generally not qualified for a faculty position — it is not a guarantee, but a pretty good estimate.

My view is biased by the German academic system and I focus here on the first appointment as a professor, most likely a so-called W2 position in Germany. Similar standards may hold for W1 evaluations or habilitations, but that depends somewhat on the university. For a W3 application, you want to put the bar higher, especially concerning past merits and leadership experience.

## Key criteria used by selection committees

The selection committee agrees on a list of criteria before the call or the application deadline. In most cases, the list will look similar to this one:

1. Quality of the research profile and past merits
2. Fit to the position/call
3. Teaching quality

The central question is, “what are minimum requirements given these three criteria that I need to fulfill such that the committee will consider my application?” I formulate this question explicitly because to meet the minimum requirements, you probably need to plan your career quite some time ahead. From my experience, a good baseline is set roughly in the form of the following achievements – exceptions are, of course, possible as the selection depends on the committee. To be clear, this does not mean that you will be selected if you fulfill the below-mentioned criteria as there are most like better candidates in the pool. However, it is unlikely that a professional selection committee will appoint candidates, who rank below certain thresholds.

### 1. Quality of the research profile and past merits

*“Your publications and self-acquired third-party funds are the currency.”*

**Publications:** Ensure that you publish most of your papers in peer-reviewed, high-ranked journals in your field. Depending on your discipline, top conference papers may count as well, for example, in computer science, but journals are always better. As a rule of thumb for a postdoc, I recommend publishing at least 1-2 articles per year as first or last author, plus maybe two papers per year without being first or last author. If you have stayed in the same lab after your Ph.D., make sure you have a few articles published without your Ph.D. supervisor on the author list. Today, more and more people in selection committees want to see a minimum h-index. Depending on your field, this absolute minimum threshold will vary somewhere between 10 and 15. Furthermore, you want to have at least 500 citations (assuming Google Scholar) and an upwards pointing gradient of citations per year. In fields where citations count a lot, you probably want to have more than 1,000.

**Third-party funding:** What counts are the projects for which you are the principal investigator. You should have at least one project, acquired as the first PI, with a budget of

more than 200.000 euros. Depending on the university, the selection committee might only consider projects funded by the national science foundation (for Germany: German Research Foundation, DFG). Often, EC funding counts as well, but funds by the DFG are often seen as more prestigious, at least within the more conservative universities. You should have at least one of such projects, better two, but that depends on the time after your Ph.D. If you received a grant from the European Research Council (ERC), you are clearly above the threshold. The same holds if being a successful DFG Emmy-Noether group leader.

## 2. Fit to the position/call

*“You are expected to become successful, to integrate well, and to bring the discipline/institute/faculty/university forward.”*

**Research topic fit:** Do your research topics match the ones mentioned in the call? The answer to this question is often a yes/no decision. Thus, it can be wise to broaden your expertise during your postdoc time and not have a too narrow view. However, you cannot influence the topics mentioned in the call, so it is hard to plan a fit ahead of time. However, make sure you know the direct colleagues, the institute, the currently running, most prestigious projects (for DFG-funded projects, this would be EXCs, SFBs, FORs), the faculty, and the university when applying.

**Fit as a person/leader:** As a professor, you are expected to have a vision, know what matters and is considered a success, guide students, and can deal with as well as support your colleagues. Thus, make sure you have at least basic leadership skills. You should have experience in supervising M.Sc. students and, if possible, co-supervising Ph.D. students (I regard it as valuable if you are able to name and explain 2-3 topics for potential Ph.D. theses). Furthermore, you should have the ability to handle and resolve conflicts, and – quite importantly – you should know how your current boss or other professors are being evaluated themselves. Show that you are goal-oriented and follow such measures.

## 3. Teaching quality

*“You need to form the next generation of researchers and workforce, teach them well.”*

The ability to teach often counts somewhat less than the first two criteria. As a rule of thumb, make sure you have taught at least one lecture for a whole semester entirely on your

own before applying. So, start teaching early, and this will not be a problem. Some universities will ask you to give a test lecture at the interview. My experience is that more than 50% of the invited candidates perform well, so teaching is often not a critical point for candidates with some experience. Due to COVID 19, many teaching activities run digitally using video recordings or live streaming. You may want to exploit that to your advantage. Providing a list of links to recorded lectures within your application can make you stand out.

## Further remarks

Besides the above-mentioned formal criteria frequently used by selection committees, there are other abilities that you need to show during an on-site selection process. These capabilities are not unique to academic positions and hold for other jobs as well, but you may want to make sure you master them as some of your competitors are likely to be strong.

- Presentation skills – You will have to give a presentation about your research addressing a broad audience (from students to experts in your field), and you must be able to answer challenging questions. Practice your presentations and storytelling skills; it pays off.
- Language capabilities – Obviously, you must be able to speak and present in English fluently. If you are not speaking the local language, you may want to clarify the expectations of the university beforehand (you are most likely expected to learn the local language within a given time frame, for example, two years).
- Know the committee – The more you know about the committee members, the better. By addressing them directly and linking your research to their past merits, you show that you prepared yourself for the interview and will likely fit the institution's research activities.
- Stress-resistance – Sometimes, people want to test how you react under stress (through asking tricky questions). So keep calm, answer consistently, and stand your ground.

Finally, the competition can be challenging. Depending on the announced position, the research field, the reputation of the university, and other factors, you will have roughly 10-100 applicants per position, most likely in the order of 30-80. So do not get discouraged too quickly. In case you do not get selected in the end and you do not know why, try to ask the head of the commission. Depending on the local employment laws, people may not be allowed to tell you anything; others, however, provide feedback. At least you get an idea why the committee did not select you. It should be clear that such communication cannot be done

via email. Do it via phone and ask for an unspecific telephone appointment before. This strategy worked best for me personally.

## **Conclusion**

In sum, develop a vision, become a leader with an independent research profile, publish well, get own third-party funding as a principal investigator, and learn to teach. Remember, the numbers and suggestions mentioned above are a good guideline, not a guarantee, and they depend on your discipline. Furthermore, the numbers are likely to change and will probably increase in the future. So, good luck on this exciting path!

Note that this document reflects my personal view and is based on discussions with colleagues and observations that I have made in around 15-20 commissions at the University of Bonn and several other institutions within the last seven years.