

BEST Practices 2017 – Examples of Workshops & Courses from the 17 BEST Programs

Purpose: To illustrate the diversity of workshops and courses offered by BEST programs and to hopefully spark ideas from participants to initiate, develop or refine similar offerings at their home institution.

Data: Programs were asked to share one example workshop or course that has been particularly impactful. Novelty was not paramount; we asked for an example that has been successful and yielded insights about what works and doesn't work.

For information about additional workshops and courses offered by the BEST institutions, please visit the individual program and/or consortium website.

Institution - Program	High Level Approach (High Level Program Aims)	Example Workshop or Course Description	Focus/Learning Objectives	Target Audience	Resources	Two Lessons Learned (+: what works; -: what doesn't)	More Information
Boston U – BU's BEST	Start with faculty idea and/or Labor Insight™ data (workforce trends), have practitioners validate and then map to curriculum (workshop or course); Aims to “re-engineer the biomedical training pipeline” by using information from the biomedical job market and career best practices to help inform curriculum development that will prepare trainees for diverse biomedical careers	Professional Development Skills; 2 credit required course (2 hrs./week x 12 weeks plus 6 hrs. of student-selected activities)	<ul style="list-style-type: none"> • Presentation skills • Compliance, ethics & the law • “Personal professional development” <ul style="list-style-type: none"> – Students work through myIDP – In class sessions e.g. career panels – Students pursue 6 hrs. of their own choosing outside of class 	PhD students in Program in Biomedical Sciences (PiBS); Spring term of 1 st year (8-20 students); BU's BEST trainees (PhD students and post-docs) invited to attend career panels	Course manager, BU's BEST PI, Team taught: BU faculty, staff, Propel Careers and alumni et al. for career panels	(+) Students find course useful to career development: career panels and activities of own choosing well received (-) Some sessions too long	http://www.bu.edu/best/schreibe@bu.edu
Cornell – BEST	Emphasis on professional development and experiential learning, trying things out first as a pilot, then workshop (or series) and then a course (run through official multi-year campus process); Aims to help trainees better learn about and contribute successfully in career paths where their expertise is desperately needed with an individualized, flexible program that empowers trainees	Finding Your Research Voice: team-taught by experts – performing arts and physics professors and started as a summer workshop [originally 6 sessions, 14h total; then tried 2 sessions, 6h total- feedback indicated this was too short; then 6 sessions, 18h total; now a course: 16 sessions, 48h total]	<ul style="list-style-type: none"> • Give an engaging first 10min of their talk, including how to use body and voice • Boost trainees' confidence in speaking about their work to varying audiences, with a focus on scientists & engineers in unrelated fields (like at a conference) • Practice delivery, with video recording and peer feedback 	Up to 20 trainees (if more than 10-12, split into two groups for feedback); open to all STEM PhD students and postdocs; must have data they would like to present (e.g. at a lab meeting or upcoming conference)	Funding was provided upfront for the professors to try teaching new course (\$2-4k); staff assisted with marketing, Blackboard management and collecting evaluations	(+) Faculty really enjoy teaching this course and benefit from using it to fulfill teaching requirements; peer feedback from various disciplines is valuable (-) It was too intimidating for trainees to require that they upload pre-work such as a 10 min. video & 1 min. elevator pitch to represent 'before'	http://www.best.cornell.edu/ ; sv27@cornell.edu
Emory and Georgia Tech – Atlanta BEST	Designed series of stage specific, cohort-based programming: Consecutive workshops that build on each other and emphasize community building and self-awareness, applicable to all career fields; Aims to reshape preparation of the biomedical workforce by exposing biomedically trained PhDs to skills that will lead to success in graduate school and in turn, their future careers. Programming includes exposure to broad and relevant career options through self-reflection, interactive career exploration and professional development, faculty-trainee mentoring tools and strategies, and exploring innovative curriculum changes.	Foundations of Personal Development Bootcamp; 3 consecutive days, 4 hours each. Taught by BEST program manager with PhD students as co-facilitators; cohort model	<ul style="list-style-type: none"> • IDP principles broken-down into manageable worksheets • Improved Self-awareness, leveraging the Birkman Method • Defining success for graduate training and future • Building networks and resource awareness • Understanding lab culture • Addressing mental health 	First year PhD students in the Graduate Division of Biological and Biomedical Sciences (about 60 each year, broken up into 2 cohorts); Takes place beginning of second semester (piloting Jan 2018)	BEST program manager is a certified to administer the Birkman (trainings retails about \$3.5k for 3d); Birkman fees per student, which vary by organization and if you use a subscription model	(+) Trainees get time and space to work on questions such as “Who am I? What do I like to do? What environments will I thrive in?” (-) Standalone sessions less than 1.5h do not allow for enough time to discuss and reflect in the session.	http://www.best.emory.edu/ ; best@emory.edu ; http://best.emory.edu/trainees/self-assessment.html

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Michigan State U – BEST	First-year professional development Spheres of Success (SoS) workshops balances skills development with career exposure (2-3/month); Aims to provide a multi-year co-curricular program that targets education in both skills and experiences around expanded career options by focusing on student self-efficacy around professional competencies that transcend discipline and career	Sample Workshop: Building Your Network of Support: Help trainees identify people in their world who can support various facets of their career development; <u>cohort model</u>	<ul style="list-style-type: none"> Networking Communication Developing skills in asking for and offering support and help Self-Assessment in personality, skills 	About 30 trainees [~25 PhD students; ~5 postdocs]; must apply with a letter of support and be in good standing; open to all years	Program manager teaches; Local faculty and professionals teach skills workshops; other professional speakers/workshops ~\$2k/each	(+) Leverage people from the institution and local area as instructors/speakers (-) Get feedback on speakers and make changes accordingly	http://best.msu.edu/ ; MSUBEST@msu.edu
NYU – STEP	Pipeline based on need: start with a short session (3h), then expand to 1-2d, then 8-10wk course; Courses tend to be more career specific while workshops focus on professional skills; certificates given for c/w that are 1+ days; Aims to engage trainees early in actively planning their own careers, assessing their personal values and translating those into individual goals, while introducing them to diverse career opportunities	Medical Communications: 1.5h/wk for 10wk; covers communications skills – how to write and present data (examples from papers to a slide deck); grew out observation that trainees were going into this field and started with a workshop that was popular	<ul style="list-style-type: none"> Understand what's required in terms of skills Opportunities to develop and practice those skills, build confidence 	20 trainees in year 1 and 40 in year 2 (1/4 PhD students, 3/4 postdocs); charge \$40; high retention (80-90%)	Two instructors are paid (split \$3k); they review trainee's projects and their resumes in addition to teaching the course. Instructors were found through staff network. They work in med comm and wanted to teach.	(+) Trainees rise to the expectations you set – set a high bar and they will meet it in terms of assignments (-) Trainees seem to want a deeper dive into the career field, it is currently a brief overview of the fields in med comm	https://med.nyu.edu/research/postdoctoral-training/scientific-training-enhancement-program ; keith.micoli@nyumc.org
Rutgers – iJOBS	Leverage external experts to provide instruction in business, management and communication skills essential for career success; Aims to educate trainees about non-academic professional jobs and empower them to pursue their career goals, as well as provide "one-stop shopping" to New Jersey's biopharma industry for first-time job placement	SciPhD: Leadership and Business Skills for Scientists; 35 hr in 4 sessions; get a certificate after completion	<ul style="list-style-type: none"> Understand business of science principles, financial literacy and how industry works Leadership styles Mock interviews Resume Communication techniques Negotiation Developing people Teamwork though project simulation Networking session 	Up to 75 trainees (73% PhD students, 24% postdocs; 3% alumni/faculty/staff) from 5 schools; ~55 complete; No longer require that students be post-quals or PI permission (program informs the PI and they have to reply if concerned)	\$25k professional fee to instructors for up to 75 trainees (they provide workbooks and trainees have access to materials online); need flexible space; bus trainees from other locations; provide lunch	(+) Could coordinate with neighboring universities to cut down on costs (-) Timing weekend versus weekday has tradeoffs for people with families and concerns trainees have about PI retribution	http://ijobs.rutgers.edu/ ; janet.alder@rutgers.edu http://sciphd.com/
UC, Davis – FUTURE	Adapted and expanded core curriculum used for an existing internship program at UC Davis; develop new workshops and leverages existing workshops; Aims to prepare trainees to market and use their skills to pursue diverse careers, and provide opportunities for career exploration and the development of professional skills.	FUTURE Career Exploration Workshop Series; 2h/wk for 10wk (one quarter)	<ul style="list-style-type: none"> Fundamentals of career exploration with hand-on exercises Better self-awareness of what's personally important in a career Tools to learn about career options Find and develop their own experiential learning opportunities ID and market their skills 	Up to 25 trainees; must submit an application with a letter of support from PI	PhD-level program coordinator teaches [25% effort for the quarter]	(+) Trainees want sessions to be interactive (get practice); (-) Requires hand-holding trainees at times and effort to overcome the relative isolation they experience (e.g. don't know about campus and non-campus resources and opportunities that support career exposure/readiness).	http://future.ucdavis.edu/ ; FUTUREprogram@ucdavis.edu

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UC, Irvine – GPS-BIOMED	Look for existing successful c/w in other schools/depts and adapt them for biomed PhDs; also provide access to distance learning courses; Aims to prepare trainees for a variety of careers, empowering them to be skilled scientists and polished professionals	Science Communication Skills Course: for credit; 2h/wk for 10wks; expert instructor is well-known on campus; adapted from course developed for physics/math depts.; last two weeks are filming	<ul style="list-style-type: none"> Adapt research narratives or scientific presentations into TED-style talks filmed by UCI Media Develop a story that has a concise and engaging opening, middle & end Describe and present your research w/o using jargon so its accessible outside your discipline and to a general public Create engaging and attractive slides & media 	Up to 25 trainees; mainly PhD students but open to postdocs	Expert instructor is science writer, playwright and adjunct professor (\$25k fee); Program staff attend most sessions	(+) Trainees incorporate parts of their TED-talks into job talks, conference presentations and department seminars (-) Train-the-trainer model was successful at teaching trainees to edit scientific content for a general public, however, not as successful at teaching trainees to provide live oral feedback	http://gps.bio.uci.edu/ ; dfruman@uci.edu eflores@uci.edu
UC, San Francisco - MIND	Combined existing training with new elements to provide a carefully scaffolded course that teaches trainees strategies for effective career exploration and reinvention; Aims to create, deliver, and test the effectiveness of a comprehensive career development intervention to address specific knowledge gaps and motivational challenges that can derail the career decision-making process	MIND Catalytic Course; not for credit; optional 21hr course about career exploration offered on 3 Saturdays; a <u>fixed cohort</u> of PhD students and postdocs attends the Catalytic Course (phase 1 of MIND, Fall) and then meets in small peer teams to continue their individual career exploration (phase 2, Winter & Spring)	<ul style="list-style-type: none"> Summarize the Working Identity model (iterations of action and self-reflection) and the features of successful career reinvention Practice telling the story of your working life thus far, both in writing and in person Use the myIDP module to determine which 2-3 career paths may best fit your unique skills, values and interests (for further exploration in phase 2 of MIND) Define your goals for a given informational interview and prepare the materials needed to initiate it Learn how to create SMART goals to guide your career exploration efforts 	Up to 90 trainees (typically 2/3 postdocs and 1/3 PhD students who have passed qualifying exams); must submit an application to be part of the program	Two main and one guest instructors from the Office of Career and Professional Development; 65% effort from PhD-level program director during the quarter; 4 PhD-level panelists; food; MBTI fees	(+) Our trainees often know professionals who can be useful contacts for their peers (-) Our trainees need a ton of encouragement and training to reach out to strangers for informational interviews and networking	https://mind.ucsf.edu/ ; MIND@ucsf.edu
U Chicago – myCHOICE	Mini courses spilt approximately 50% broad career development and 50% career path-specific; Aims to provide career exposure and professional development training leading to greater career choice empowerment and satisfaction with chosen career and improved concordance between myIDP career fit assessment at training exit and actual career selection	Elements of Scientific Writing; 2h/wk for 3 wks; taught by expert instructor from “Little Red Schoolhouse” at UChicago (LRS)	<ul style="list-style-type: none"> Learning writing techniques that result in communicating content with greater clarity and focus. http://www.mychoice.uchicago.edu/effectivewriting 	Up to 15 people; target 3 rd + year students and postdocs; application required, first-come first-serve (60 person waiting list without having to advertise); trainees submit a writing sample; \$20 co-pay	Expert instructor from LRS received \$500 honorarium (although institutionalization will likely result in higher fee) provides feedback on writing; Program manager collects co-pays to cover cost of food (not intended to pay instructor)	(+) Broad applicability makes it easier to secure funding AND faculty buy-in (-) trainees wish this course was longer and want more feedback on their writing “More than 4 sessions leads to drop-off in attendance” (I would say this about other courses, not this one)	http://www.mychoice.uchicago.edu/ ; mychoice@uchicago.edu ; http://writing-program.uchicago.edu/ ; http://www.mychoice.uchicago.edu/effectivewriting
UC Denver Anschutz Medical Campus – BESST	Workshops converted to 1-credit courses (15h); Aims to enhance the competitiveness of trainees for research or science related jobs inside and outside academia with a 4-part model: Preparation, Education, Cultivation and Employment	Project Management; 4 full days, taught by external professional expert with science guidance from BESST faculty/PI present. Trainees earn a certificate upon completion; which allows testing for CPMA certification	<ul style="list-style-type: none"> Instructs on 10 key management areas and provides a framework that trainees can apply (quality, scope and time) to organize their research throughout their training and beyond. 	Up to 18 people (pre and postdoctoral fellows). Attendance on all 4 days is required	Instructor’s fees normally retail around \$2200/person but PI negotiated for less than 50%. Instructor is a certified Project Management Professional who the PI fund through networking.	(+) Well appreciated by pre and postdoctoral fellows and faculty. (-) Too expensive to maintain as a workshop. Tricky for postdocs. Need so set seats aside for tuition waivers.	https://gs.ucdenver.edu/best/ ; inge.wefes@ucdenver.edu ; https://www.pmi.org/

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UMass Medical School – UMMS BEST	Integrate career development c/w and assignments into PhD curriculum, spanning full length of PhD training; required along with other PhD requirements for all students in basic biomedical sciences programs; faculty teach side-by-side with BEST staff; <i>Aim for trainees to take action toward career and professional development throughout their training by means that will enhance research productivity while not lengthening time to degree</i>	Career Planning and Creating an Individual Development Plan (IDP): five 2-hour workshop-style lessons that compose half of BBS601, “Professionalism and Research Conduct”; for-credit Fall course required for and tailored to 3 rd year students; grade based on attendance and homework assignments	By the end of this course, students will be able to... <ul style="list-style-type: none"> • Appreciate that PhDs pursue a wide variety of careers, and that students should be proactive in their own career development • Evaluate career options in the context of their own skills, interests, and values • Apply a targeted approach to career exploration, including strategies such as online research and informational interviewing • Evaluate their network; use tools and strategies to facilitate meeting new professionals; recognize importance of fostering long-term relationships • Prioritize and set goals that are specific, measureable, action-oriented, realistic, and time-bound (SMART) to ensure progress in thesis research, skills development, and career preparation • Identify their mentoring needs, and engage multiple mentors in their research and career planning 	All 3 rd year PhD students in basic biomedical sciences programs; MD/PhD students in equivalent level of PhD training (required attendance; ~30-45 per year)	Taught by program staff (PhD-level) [20-30% effort for 4 months per year]; 5-7 panelists (PhDs employed at UMMS or external employers) [minimal cost]; senior students participate as facilitators [no cost]; minimal materials cost	<p>(+) Students appreciate hands-on exercises, peer-to-peer discussions, talking with scientists who have navigated their careers, and input from senior students (during the IDP poster session). Students appreciate being “forced” to thoughtfully consider their career plans.</p> <p>(-) Requiring students to attend shifts the dynamic within the classroom; as a result, lessons must be engaging, action-oriented, and student-focused to draw in students who would otherwise choose not to attend. A rigorous syllabus and buy-in from campus leadership have been important for holding students accountable to attending and completing assignments.</p>	http://best.umassmed.edu/ ; GSBScareer@umassmed.edu
UNC – ImPACT	Career skills workshop series for teaching, industry, science policy and science communication, plus IDP workshops and special events (guest instructors); <i>Aims to change the culture of life science training at UNC with goals of decreased time to degree, decreased time to first permanent job, increased career satisfaction, and increased placement of trainees in wide range of research and research-related careers</i>	Teaching Series; 8 sessions of 1.5-2h/wk offers pedagogical training for best practices in teaching; leverage expert instructors from the area; certificate upon completion	<ul style="list-style-type: none"> • Interactive Team Learning • Learning Assessment • Process Oriented Guided Inquiry Learning (POGIL) • Teaching Statement, Portfolio, and Application Material Development • Classroom Management • Syllabus Design • Challenges of First Time Teachers • and Active Learning 	Workshop series participation is open to all life science grad students and postdocs (1000+ combined). On average 50 GS and 25 PD attend in a given year.	2 expert instructors professional fees (\$1-1.5k); 6 others are recent UNC hires; takes about 10-12h to run the course by the program manager	<p>(+) Student planning committee for the series is very helpful (e.g. invite guests and provide real-time feedback)</p> <p>(-) Can entice consistent participation by offering a certificate to those who attend all sessions.</p>	http://tibbs.unc.edu/ ; rlayton@med.unc.edu
U Rochester – URBEST	Courses that appear on transcript and are required for those on a T32; Aims to better prepare trainees for careers outside of academia through instruction in leadership and professionalism, opportunities for internships and shadowing, and training pathways that provide access to aligned educational programs and experiential learning opportunities	Leadership and Management for Scientists; 1.5h/wk for 15wks; course is team-taught by 13 internal and external instructors; interactive activities, reflective writing, self-assessment instruments, and group discussion; for credit	<ul style="list-style-type: none"> • Project management • Communication • Personality styles • Budgeting skills • Human-centered strategies for leading effective teams • Techniques for addressing issues that commonly arise within and between research groups 	20-25 trainees [about 20 PhD students and 5 postdocs]	13 instructors: internal includes dean of research (topic is solving conflict), and external – two are paid, one retired who teaches DiSC and one for personal mission (\$150/hr)	<p>(+) Trainees go above-and-beyond in their writing, open up and share</p> <p>(-) Get feedback on speakers and make changes accordingly</p>	https://www.urmc.rochester.edu/education/graduate/best-program.aspx ; Tracey_Baas@urmc.rochester.edu

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Vanderbilt – ASPIRE	<p>Ten non-credit bearing courses (“modules”) develop skills and knowledge of careers in communication, clinical research, business, entrepreneurship and teaching; Aims to empower Vanderbilt’s trainees to make well-informed career decisions by providing resources and experiences that expand training paradigms and prepare trainees to transition efficiently to a wide-range of research and research-related careers</p>	<p>Management & Business Principle for Scientists; 2h/wk for 10 wks plus a retreat after wk 7; developed in partnership with managerial studies faculty; VU core facilities directors provide projects – teams of trainees develop solutions to real business problems faced by cores</p>	<ul style="list-style-type: none"> • Learn business and management fundamentals • Understand how to work effectively in a team environment • Gain real experience in business practices • Make more informed career decisions • Learn what it’s like to be a core director • Learn how to give a business pitch 	<p>Up to 24 trainees, generally have 20-24; students must be post-quals and strongly discourage postdocs less than 0.5 year in; trainees apply to the program</p>	<p>Consulting fee paid to adjunct faculty in management (\$5k), core directors contribute 10-12h each (Dean level support is given for their participation), plus program managers; science and business faculty and local business leaders serve as judges w/o cost</p>	<p>(+) Trainees liked the short sessions over a long period of time because this did not interfere with research productivity and promoted deeper learning of business concepts, better team interactions, and more networking opportunities (-) Challenge is finding sustainable support for adjunct faculty</p>	<p>https://medschool.vanderbilt.edu/aspire/; bret.career.development@vanderbilt.edu</p>
Virginia Tech – BEST	<p>À la carte but a staged curriculum is recommended and required for some, and is meant to help trainees decide what in-depth course(s) to take later; Aims to provide pre- and post-doctoral trainees with the information, experiences, and mentorship needed to prepare them for pursuing a broad range of academic and non-academic career paths, without extending overall training time</p>	<p>Professional Development Course; 1/wk for 2h for 15 wks (1-3pm); external and internal speakers; assignments and group work; for credit</p>	<ul style="list-style-type: none"> • Describe a wide range of careers pursued by biomedical PhDs and explain how they intersect to advance translation of discoveries into improvements in human health • Evaluate the ethical issues that biomedical, translational, and health science advances present to society, and evaluate the role and responsibilities of the scientist in society. • Use myIDP tool and self-assessment to identify a set of desirable careers, and set short and long term goals toward achieving desired career outcomes • Identify additional coursework, professional development activities, and networking opportunities to achieve these goals • Demonstrate proficiency in a number of transferable skills (leadership, oral communication, writing, networking, grantsmanship) • Prepare a professional curriculum vitae that emphasizes experiences and skills important for obtaining professional employment. 	<p>About 30 trainees per class (mainly students but postdocs can audit); required for all students in the Translational Biology, Medicine, and Health (TBMH) program</p>	<p>Internal and external speakers (external receive travel and \$1k honorarium; asked to participate in other activities during a 2d visit); Communication center on campus does one session (free for BEST but could charge \$7.5k); Course leader gets \$2-2.5k to home dept; faculty committee invites speakers</p>	<p>(+) For credit courses are more impactful; Including deliverables like informational interviews, additional prof dev activity attendance, and written reflections increases impact of experience (-) Tough for postdocs to participate in full course, have made individual classes auditable</p>	<p>http://info.vtc.vt.edu/best/; avanwart@vtc.vt.edu</p>

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Wayne State – BEST	Daylong workshops on the career options serve as a “bridge” between early exploratory seminars and career exploration/internship experiences after (3 phases); <i>Aims to assist and support trainees in exploring a variety of career options outside of academia and foment culture change among faculty so that such careers are viewed as positive outcomes</i>	Landing a Career with LinkedIn: Identify, Apply, and Acquire Your Dream Job – 2-hour workshop; instructor is Jay Johnson, staff at Wayne State with expertise and training in career and professional development; he conducts the BEST Program’s careers course; offered twice a year; the Graduate School offers a microcredentialing option for trainees, who can elect to be awarded electronic “badges” for seminar and workshop participation	<ul style="list-style-type: none"> • What to use LinkedIn for • How to set-up your profile • How to reach out using LinkedIn 	Attendance at the last LinkedIn workshop was approximately 65 (10 postdocs, 20 masters, 35 PhD students); while the workshop is not required of BEST participants they are strongly encouraged to register for it	Instructor receives \$250	(+) Trainees are surprised how much they learn and want an even longer session (-) At present, only a third of attendees pursue the microcredentialing option	https://gradschool.wayne.edu/best ; BST@wayne.edu