

COURSE PROGRAMME

Course ID:	not applicable
Name of block	Research Management
Course title	Research Management
Department	Coordinator: prof. Alicja Jozkowicz, Department of Medical Biotechnology, Faculty of Biochemistry, Biophysics and Biotechnology; tel: 12-664-6411, 519-347-621; email: alicja.jozkowicz@uj.edu.pl
Course groups	Lectures – for all students Workshops – for 4 groups
ETCS and other scores	3 ECTS
Language	English
Requirements	The course is intended for PhD students
Conditions of gaining credit	<ul style="list-style-type: none"> • preparing a grant proposal according to the "Preludium" scheme – 70% • grant revision – 20% • active participation in discussions (including evaluation of other presentations) – 10%;
Aims (including effects of education)	<p>Intended Learning Outcomes</p> <p>Knowledge</p> <p>Upon successfully completing this module, students will know:</p> <ul style="list-style-type: none"> ▪ major elements of a research project cycle from the initial idea, through running the grant, to the final reporting; ▪ theoretical aspects and practical experiences necessary for preparation, submission, management, and implementation of research projects; ▪ legal, economic, and ethical rules for research activity; ▪ different types of grants and various sources of financial support, including cooperation with commercial partners; ▪ main methods for evaluating the research projects; ▪ major regulations concerning the intellectual property rights and copyright in Poland and abroad; <p>Skills</p> <p>Upon successfully completing this module, students will be able to:</p> <ul style="list-style-type: none"> ▪ identify essential components of hypothesis-driven research plan ▪ construct a compelling research grant proposal containing all necessary elements (background and rationale, description of methods, schedule, budget, cost justification) at the level acceptable for the central research financing units in Poland; ▪ present a grant proposal to the reviewer board in the form of oral presentation or interview; ▪ submit, manage, and report a research project;



	<ul style="list-style-type: none"> ▪ work as a member of research team; ▪ gain grantsmanship skills by identifying the strengths and weakness in other proposals; ▪ evaluate the research projects, participate in the peer review system, prepare the revision forms, express both positive and critical opinions in a polite and constructive manner; ▪ experience the strengths and caveats of a peer-review system. <p>Attitudes: Upon successfully completing this module, students should demonstrate:</p> <ul style="list-style-type: none"> ▪ Full compliance with ethical principles in performing research. ▪ Creativity in searching for new sources of financing for research projects. 		
Didactic Methods	Lectures, workshops (practical training)		
Instructors	Prof. dr hab. Alicja Józkowicz, dr hab. Małgorzata Grodzińska-Jurczak, dr Hajnalka Szentgyorgyi, dr Krzysztof Pyrc, dr hab. inż. Maciej Bagiński, dr Jerzy Pieczykolan, dr inż. Gabriela Konopka-Cupiał		
Group Instructors	Prof. dr hab. Alicja Józkowicz, dr hab. Małgorzata Grodzińska-Jurczak, dr Hajnalka Szentgyorgyi, dr Krzysztof Pyrc		
Semester	II	Academic year	2012/2013
Time Span	34 hours	Type of class	lectures - 17 h workshops – 17 h
Examination	Student will prepare a collective or individual proposal according to the "Preludium" scheme. Proposal topic will be selected by the student and developed with the instructors. Student will prepare also a revision of classmates' proposal for discussion at the reviewer panel.		

Brief course description	<p>The course covers the major components of a scientific grant application:</p> <ul style="list-style-type: none"> ▪ common errors in grantsmanship and hints how to avoid them, ▪ grant application review criteria, ▪ ethics related to grant writing and reviewing, ▪ identification of funding sources. <p>Module comprises lectures and workshops, with particular emphasis on interactive, practical training. Lectures will describe modes of financing the research and rules for grant application to various agencies, with focus on Polish institutions, such as the National Research Centre or the Foundation for Polish Science. They will also present the principles of selection and evaluation of research projects. Examples of well and purely done work will be demonstrated and discussed with students to pinpoint the most important and common mistakes, and to learn the principles of good writing and presenting the proposal. Besides, the lecture sessions will be devoted to issues of intellectual property laws, project result dissemination, and practical aspects of cooperation with commercial partners. They will also familiarize the students with formal and informal ethical principles in science. A major part of the module will focus on systematic and detailed work on research projects, including preparation, submission, evaluation, management, and reporting the grant. Workshops will be the most important part of the course, devoted to practical training organized by instructors with personal experience in project application and management.</p>
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FULL COURSE DESCRIPTION

Session no. 1	Why to apply for a grant?
<i>Date</i>	Tuesday, February 26 th , 18.00-18.45; 1 hour;
<i>Format</i>	Lecture – Alicja Józkowicz
<i>Aims of the session, main issues discussed</i>	The aim is to present different strategies which can be adopted by a junior research fellow to become an independent scientist. Benefits and costs of running the projects, specific for subsequent stages of personal scientific development, will be discussed.
<i>Key readings for the session</i>	-

Session no. 2	Non-scientific sources of research financing.
<i>Date</i>	Tuesday, March 5 th , 18.00-19.30; 2 hours
<i>Format</i>	Lecture – Małgorzata Grodzińska-Jurczak
<i>Aims of the session, main issues discussed</i>	The aim is to present diversity of national and international programs, not related to scientific agencies, with special emphasis on grants designed for young investigators.
<i>Key readings for the session</i>	-

Session no. 3	Scientific sources of research financing.
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<i>Date</i>	Tuesday, March 12 th , 18.00-19.30; 2 hours
<i>Format</i>	Lecture – Alicja Józkowicz
<i>Aims of the session, main issues discussed</i>	The aim is to present diversity of national and international research programs (founded by NCN, FNP, NCBiR, ERC, EMBO, The Wellcome Trust, NSF, NIH) with special emphasis on grants designed for young investigators.
<i>Key readings for the session</i>	Websites: http://www.ncn.gov.pl/ ; http://www.fnp.org.pl/ ; www.ncbir.pl/ ; http://www.embo.org/programmes.html ; http://www.wellcome.ac.uk/Funding/index.htm

Session no. 4	What makes a good CV
<i>Date</i>	Tuesday, March 19 th , 18.00-19.30; 2 hours
<i>Format</i>	Lecture – Małgorzata Grodzińska-Jurczak
<i>Aims of the session, main issues discussed</i>	The aim is to present the rules and hints for making a CV in the format proper for research proposals.
<i>Key readings for the session</i>	-

Session no. 5	How to write a research proposal?
<i>Date</i>	Tuesday, March 26 th , 18.00-19.30; 2 hours
<i>Format</i>	Lecture – Alicja Józkowicz
<i>Aims of the session, main issues discussed</i>	The aim is to present the major elements in writing the research project proposal. Crucial issues such as how to build an effective working group, what are milestones and how to draft them, what are deliverables and how to plan them in a long-term perspective will be presented. Samples from successful proposals will be cited to illustrate key points.
<i>Key readings for the session</i>	Examples of successful research projects prepared in the frame of polish and international programs (will be provided).

Session no. 6	Writing a grant proposal to non-scientific agencies.
<i>Date</i>	Week: April 8 th -12 th ; 4 hours
<i>Format</i>	Workshop – Małgorzata Grodzińska-Jurczak
<i>Aims of the session, main issues discussed</i>	Students will practice writing the initial project statement, discuss the duties and responsibilities of the project leader or partners and learn how to respond to various guidelines. Cases of good practice will be analyzed and common mistakes will be discussed.
<i>Key readings for the session</i>	Application forms, instructions to applicants, and criteria of selection (will be provided).

Session no. 7	Writing a research proposal to scientific agencies.
<i>Date</i>	Week: April 15 th -19 th ; 4 hours
<i>Format</i>	Workshop – Alicja Józkowicz
<i>Aims of the session, main issues discussed</i>	Students will practice writing a hypothesis-driven research project in the frame of "Preludium" requirements. They will learn how to focus

	on the key sections of successful proposal and how to demonstrate that their projects merit the excellence and innovation criteria. Cases of good work will be analyzed and common mistakes will be discussed to identify and avoid common pitfalls of a grant.
<i>Key readings for the session</i>	NCN documents – instructions and application forms for "Preludium", "Etiuda", "Fuga", "Sonata" and "Opus" projects.

Session no. 8	Project monitoring and evaluation.
<i>Date</i>	Week: April 22 nd -26 th ; 4 hours
<i>Format</i>	Workshop – Krzysztof Pyrc
<i>Aims of the session, main issues discussed</i>	Issues such as internal organisation, evaluation and reporting the projects will be presented and practiced. The aim is to introduce the rules of project monitoring on a regular basis, with reaching the milestones, and with hints how to react to unexpected circumstances which may occur when running the project.
<i>Key readings for the session</i>	"Annual report" and "Final reports" forms for "Preludium" project. Examples of correct reports (will be provided).

Session no. 9	Dealing with project finance.
<i>Date</i>	Week: May 6 th -10 th ; 4 hours
<i>Format</i>	Workshop – Hajnalka Szentgyorgyi
<i>Aims of the session, main issues discussed</i>	This session aims at demonstrating how to develop focused and realistic budgets. Financial aspects of research management and typical financial arrangements will be presented. Their practical effects will be discussed and trained.
<i>Key readings for the session</i>	-

Session no. 10	Peer review of research projects.
<i>Date</i>	Tuesday, May 14 th , 18.00-19.30; 2 hours
<i>Format</i>	Lecture – Maciej Bagiński
<i>Aims of the session, main issues discussed</i>	The aim is to describe the various schemes of research project evaluation. Special attention will be paid to the perspectives of grant reviewers and how to write a proposal in ways that will meet their expectations.
<i>Key readings for the session</i>	Instructions for the reviewers from Polish and international agencies (will be provided).

Session no. 11	How to survive as a team member or as a PI?
<i>Date</i>	Tuesday, May 21 st , 18.00-19.30; 2 hours
<i>Format</i>	Lecture – Alicja Józkowicz
<i>Aims of the session, main issues discussed</i>	The aim is to introduce the rules of research planning, coordination and documentation. Practical tips of how to create and manage a team and how to facilitate the everyday duties will be described. Useful hints will show how to organize the lab meetings and govern a

	comprehensive research, to establish an independent research group and to evolve from a team member to PI.
<i>Key readings for the session</i>	-

Session no. 12	Cooperation between academia and industry.
<i>Date</i>	Tuesday, May 28 th , 18.00-19.30; 2 hours
<i>Format</i>	Lecture – Jerzy Pieczykolan
<i>Aims of the session, main issues discussed</i>	The aim is to describe the major rules and frames of cooperation between academic scientists and commercial partners, to distinguish the common research projects and research service. Practical tips and helpful hints how to avoid misunderstandings will be discussed.
<i>Key readings for the session</i>	Examples of Cooperation Agreements and examples of research reports (will be provided).

Session no. 13	Intellectual property and patenting.
<i>Date</i>	Tuesday, June 4 th , 18.00-19.30; 2 hours
<i>Format</i>	Lecture – Gabriela Konopka-Cupiał
<i>Aims of the session, main issues discussed</i>	The aim is to present the concept and rationale of intellectual property, distinct types of intellectual protection (copyrights, patents, trademarks, industrial design rights, databases, etc.), authors' rights (moral and economic rights), limitations to copyrights and fair use. Special attention will be paid on: <ul style="list-style-type: none"> - practical aspects of commercialization of research outcomes at the Jagiellonian University - properties of invention which can be protected - how to obtain a patent protection (procedures in Poland and EU) - costs of patenting and maintaining the patent protection
<i>Key readings for the session</i>	website: http://www.cittru.uj.edu.pl/nauka-biznes/dla-naukowcow/innowacje ; http://www.cittru.uj.edu.pl/nauka-biznes/dla-naukowcow/komercjalizacja

Session no. 14	Presentation and evaluation of projects
<i>Date</i>	Saturday, June 8 th
<i>Format</i>	Workshop – Alicja Józkowicz & Małgorzata Grodzińska-Jurczak
<i>Aims of the session, main issues discussed</i>	Examination: Presenting a project proposal in the front of reviewer board, discussion and addressing the reviewer comments.
<i>Key readings for the session</i>	-



BIBLIOGRAPHY

Supplementary

Melissa S. Anderson, Nicholas Steneck (eds), *International research collaborations: much to be gained, many ways to get in troubles*, 2011, New York, Routledge.

Judith Bell, *Doing your research project: a guide for first-time researchers in education, health and social science*, 2005, Open University Press.

Andrew J. Friedland, Carol L. Folt, *Writing Successful Science Proposals*, 2009, Yale University, New Heaven, London.