

# Project Management for PhD Students



## Lecture 01

### Overview of the course & Critical success factors in the transition to independent research

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# Course Website



◆ SCIO <https://scio.his.se/portal/site/5bfae6ec-a3d7-4381-9ec9-2e7ffaf796ea>

The screenshot shows a web browser interface for the University of Skövde. At the top, there is a navigation bar with 'My Workspace', 'IT706A HT15', 'IT920F HT15', 'IT921F HT15', and 'More Sites'. Below this is a sidebar with 'Home', 'Resources', 'Site Members', 'Site info', and 'Help'. The main content area is titled 'IT920F HT15: Site Information Display' and 'Project Management for PhD Students 4.5hp'. It includes a 'Course Outline' section with the following content:

- Critical success factors in the transition to independent research
  - Theoretical perspectives
  - Practical perspectives
- Why project management?
  - Social developments
  - Reluctance to plan ahead
  - Project management for PhDs
  - Plan every last detail?
- From theory to practice
  - Characteristics of a project
  - Classic project management
  - Project-based creativity
- Rhythm and time management
  - Personal rhythm
  - What tasks do you have?

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# Course Organization



## ◆ Course objectives

- Explain the project lifecycle
- Set specific, measurable, achievable, relevant, time-bound goals
- Create and monitor realistic project schedules
- Explain the role of administration in research projects
- Compare the different styles of academic leadership
- Explain the strategic nature of research in university organizational structures

# Course Organization



## ◆ Course content

- Principles of project management
- Project lifecycle
- Planning and setting goals
- Task definition and scheduling
- Critical path analysis
- Optimal work practices and time management
- Risk assessment and mitigation
- Project monitoring
- Project leadership
- Research infrastructure and administration
- Academic leadership and strategic management

# Course Organization



## ◆ Course outline

- Critical success factors in the transition to independent research
- [Why project management?](#)
- [From theory to practice](#)
- [Rhythm and time management](#)
- [Manage your PhD](#)
- [Future](#)
- [Time to write](#)
- [Teamwork](#)
- [Finished in four years! A step-by-step plan](#)
- The transition to post-doc: managing research in a successful university

# Course Organization



## ◆ Course text

J. de Bruin and B. Hertz, *Project Management for PhDs*, Eleven International Publishing, The Hague (2010).

## ◆ Essential Reading

B. E. Lovitts, "The Transition to Independent Research: Who Makes It, Who Doesn't, and Why", *The Journal of Higher Education*, Vol. 79, No. 3, pp. 296-325, (2008).

M. Shattock, *Managing Successful Universities*, Second Edition, McGraw Hill (2010); Chapters 1-2.

# Course Organization



## ◆ Student Instruction

- Inverted approach to student instruction
  - » For each class, the students must prepare a presentation that would be suitable for teaching the material under each of the ten headings in the Course Outline above
  - » The material should be abstracted from the corresponding chapter in the course textbook
  - » The material under the tenth heading should be abstracted from the [Shattock 2010]

# Course Organization



## ◆ Student Instruction

- Inverted approach to student instruction
  - » During the class, one or more students will be randomly selected to present his or her material
  - » After the presentation, lecturers and students will review the material delivered and discuss how it might be improved

# Course Organization



IT920F, Projektledning för forskarstuderande, 4.5hp			
Date	Time	Room	Title
37: 2015-09-08	08:15 - 10:00	P404	Critical success factors in the transition to independent research
38: 2015-09-15	08:15 - 10:00	P404	Why project management?
39: 2015-09-22	08:15 - 10:00	P404	From theory to practice
40: 2015-09-29	08:15 - 10:00	P404	Rhythm and time management
41: 2015-10-06	08:15 - 10:00	P404	Review of Assignments 1 and 2
42: 2015-10-13	08:15 - 10:00	P404	Manage your PhD
43: 2015-10-20	08:15 - 10:00	P404	Future
44: 2015-10-27			
45: 2015-11-03	08:15 - 10:00	P404	Review of Assignments 3 and 4
46: 2015-11-10	08:15 - 10:00	P404	Time to write
47: 2015-11-17	08:15 - 10:00	P404	Teamwork
48: 2015-11-24	08:15 - 10:00	P404	Review of Assignments 5 and 6
49: 2015-12-01	08:15 - 10:00	P404	Finished in four years! A step-by-step plan
50: 2015-12-08	08:15 - 10:00	P404	The transition to post-doc: managing research in a successful university
51: 2015-12-15	08:15 - 10:00	P404	Course review

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# Course Organization



## ◆ Student Assessment

- 4.5 hp course load
- Six short assignments based exercises in Chapters 2-8 of the course textbook
- All exercises must be completed successfully to pass the course
- The exercises will be assigned as the course progresses

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## Critical success factors in the transition to independent research



### ◆ Who makes it, who doesn't, and why

- The main purpose of doctoral training to prepare a student for a lifetime of intellectual inquiry that manifests itself in **creative scholarship and research**
- Doctoral education targets the production of **an original and significant contribution to knowledge**

## Critical success factors in the transition to independent research



### ◆ Who makes it, who doesn't, and why

- What facilitates or impedes doctoral students' ability to make the transition?
- What leads some students to produce distinguished research and scholarship, where distinguished is defined as high quality and original/creative/innovative?
- Answers to these questions from two perspectives:
  - » Theoretical
  - » Practical

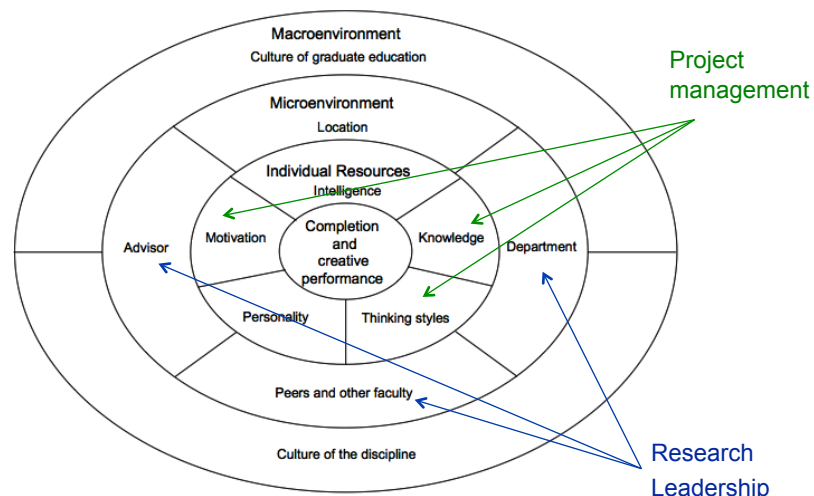
# Critical success factors in the transition to independent research



## ◆ Theoretical Perspective

- Creativity is a key factor in the successful completion of a PhD
- Three components of six personal and social resources are needed for creative work
  - » Domain-relevant skills – intelligence and knowledge
  - » Creativity relevant processes – thinking styles and personality
  - » Task motivation – motivation and environment
- The same resources also contribute to degree completion

# Critical success factors in the transition to independent research



# Critical success factors in the transition to independent research



## ◆ Practical Perspective

1. Intelligence
  - » Analytical, Practical, Creative
2. Knowledge
  - » Formal, Informal
3. Thinking Styles
4. Personality
5. Motivation
  - » Intrinsic, Extrinsic
6. Environment
  - » Macro, Micro

# Critical success factors in the transition to independent research



## ◆ Two type of students

- **Type A: students who make the transition to independent research**
- **Type B: students who have difficulty making the transition**



# Critical success factors in the transition to independent research



## ◆ Intelligence

- Analytical Intelligence
  - » The ability to recognize and solve problems
  - » Judge the quality of ideas
  - » Allocate resources to address the problem or develop the idea
  
  - » Students need sufficient intelligence to acquire the tools of the trade
  
  - » Type B: not lacking in analytical intelligence
  - » Type B: less able to figure out what to do when no one is telling them

# Critical success factors in the transition to independent research



## ◆ Intelligence

- Practical Intelligence
  - » The ability to solve problems and use ideas
  - » Common sense
  - » Pragmatic approach to independent work
  - » Students need sufficient intelligence to acquire the tools of the trade
  
  - » Type A: high degree of practical intelligence
    - ◆ Very efficient
    - ◆ Set and meet goals and standards for themselves
    - ◆ Meticulous
    - ◆ Document and break down work
    - ◆ Willing to play around with ideas and try things
    - ◆ Spot their own mistakes

# Critical success factors in the transition to independent research



## ◆ Intelligence

- Practical Intelligence
  - » Two opposite problems:
    1. Students who have a grand concept of what they want to do but no notion of how to implement it
    2. Students who become absolutely immersed in the data but cannot get anything out of them

# Critical success factors in the transition to independent research



## ◆ Intelligence

- Creative Intelligence
  - » The ability to formulate good problems and good ideas
  - » Insight and imagination
  - » Type A:
    - ◆ Enjoy the contest of ideas
    - ◆ Get emotionally and intellectually involved in seminars & debates
    - ◆ Seek feedback on their ideas
    - ◆ Can distinguish between good and bad ideas
    - ◆ Can roll with the punches
    - ◆ Can pick another question when they 'hit the wall'

Powerful predictor of the quality of a dissertation and future ability

## Critical success factors in the transition to independent research



### ◆ Knowledge

- Prerequisite for making an original contribution
- Formal Knowledge
  - » Facts, principles, concepts, theories, paradigms, attitudes, techniques and methods of solving problems, criteria for judging other's contributions
  - » Experts have a larger store of knowledge than novices
  - » Experts store it differently: wide categories, general principles
  - » Novices store narrowly applicable collections of facts, response algorithms
  - » It take at least 10 years to move from novice to expert

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## Critical success factors in the transition to independent research



### ◆ Knowledge

- Informal Knowledge
  - » Tacit knowledge that is “caught” rather than “taught”
  - » Knowing how (vs. knowing that)
  - » Procedural knowledge (vs. declarative knowledge)
  - » Type B:
    - ◆ Come from small college where faculty are not actively engaged in research, i.e. where they have not seen the model working

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# Critical success factors in the transition to independent research



## ◆ Thinking Styles

- How one capitalizes on and directs one's intelligence
- Creative / legislative style
  - » Come up with new ideas and initiatives
- Executive style
  - » Execute and implement ideas
- Judicial style
  - » Judge or evaluation ideas
- » Type B:
  - Don't think in the style that allows the transition from consumer of knowledge to producer

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# Critical success factors in the transition to independent research



## ◆ Personality

- Traits associated with creative performance and degree completion
  - » High degree of self-discipline
  - » Ability to delay gratification
  - » Perseverance in the face of frustration
  - » Independence of judgment
  - » Tolerance of ambiguity
  - » Willingness to take risks
  - » High level of self-initiated task-oriented striving for excellence

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## Critical success factors in the transition to independent research



### ◆ Personality

- Type A:
  1. Patience
  2. Willingness to work hard
  3. Initiative
  4. Persistence
  5. Intellectual curiosity

## Critical success factors in the transition to independent research



### ◆ Personality

- Type B:
  1. Unwillingness to work hard: only work “9-to-5” only
  2. Inability to deal with frustration
  3. Fear of failure
  4. Intolerance of ambiguity
  5. Inability to delay gratification

## Critical success factors in the transition to independent research



### ◆ Motivation

- A key factor that mediates between what a person *can* do and what a person *will* do
- Intrinsic motivation
  - » Derives from the task, person's positive reaction to or enjoyment of it
- Extrinsic motivation
  - » Grades, monetary rewards, external directives, ...

## Critical success factors in the transition to independent research



### ◆ Motivation

- Type A:
  1. Drive
  2. Hunger
  3. Fire
  4. Passion

# Critical success factors in the transition to independent research



## ◆ Environment

- Macro-environment
  - » Cultural context in which the student lives and works
  - » Norms, value, and beliefs that guide action and interaction
- Micro-environment
  - » Having a good cohort of graduate students is crucial for success
  - » The advisor is the single most important micro-environmental factor in success or failure

# Critical success factors in the transition to independent research

