



# Wrocław University of Technology

## Quality Assurance Systems in EU. QAS at Wrocław University of Technology.

Koblenz Sumer Academy, July 2016.



# ESG 2015

## Policy for quality assurance

### Standard:

Institutions should have a policy for quality assurance that is made public and forms part of their strategic management. Internal stakeholders should develop and implement this policy through appropriate structures and processes, while involving external stakeholders.

### Guidelines:

Policies and processes are the main pillars of a coherent institutional quality assurance system that forms a cycle for continuous improvement and contributes to the accountability of the institution. It supports the development of quality culture in which all internal stakeholders assume responsibility for quality and engage in quality assurance at all levels of the institution. In order to facilitate this, the policy has a formal status and is publicly available.



# ESG 2015

## Design and approval of programmes

### Standard:

Institutions should have processes for the design and approval of their programmes. The programmes should be designed so that they meet the objectives set for them, including the intended learning outcomes. The qualification resulting from a programme should be clearly specified and communicated, and refer to the correct level of the national qualifications framework for higher education and, consequently, to the Framework for Qualifications of the European Higher Education Area.

### Guidelines:

Study programmes are at the core of the higher education institutions' teaching mission. They provide students with both academic knowledge and skills including those that are transferable, which may influence their personal development and may be applied in their future careers.



# ESG 2015



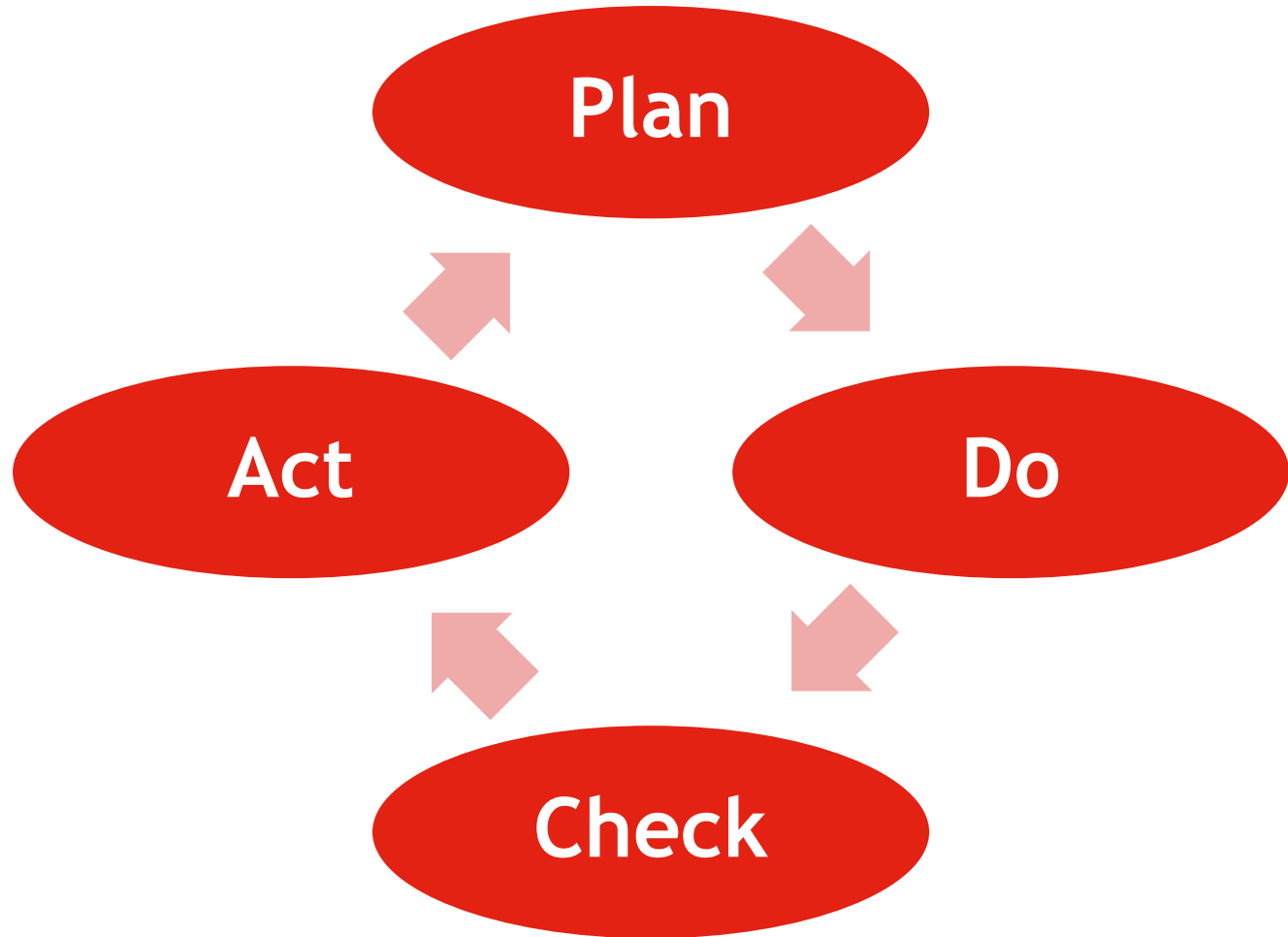
# Goal of Quality Management System

To support the achievement of the university's strategic plans and assure the high quality of the university's operations and results.

The quality management system supports the University administration and development towards the vision presented in strategy



# Deming Cycle of Continuous Improvement





# University's Quality Management

## The University's QM covers:

- scientific research;
- the entire range of academic education provided by university (undergraduate education, postgraduate education, lifelong learning education etc.);
- societal and regional interaction (stakeholders);
- support services.



# Quality policy (example)

## **The quality policy refers to the principles:**

- the university activities and management are based on continuous assessment and development;
- the university fulfils its mission in ways that promote the well-being of the staff and students;
- the university maintains a quality assurance system which ensures that the university is able to operate in a reliable, ethical, efficient and quality-oriented way, taking the needs of stakeholders into consideration.





# Quality targets (example of some strategy)

## Scientific Research

- Competiveness and internationality;
- World class research;
- High-quality postgraduate degrees.

## Education

- Competiveness and internationality;
- High quality degrees;
- Satisfaction with studies at university;
- Availability of lifelong learning programmes.



# Quality targets (example of some strategy)

## Stakeholders interaction

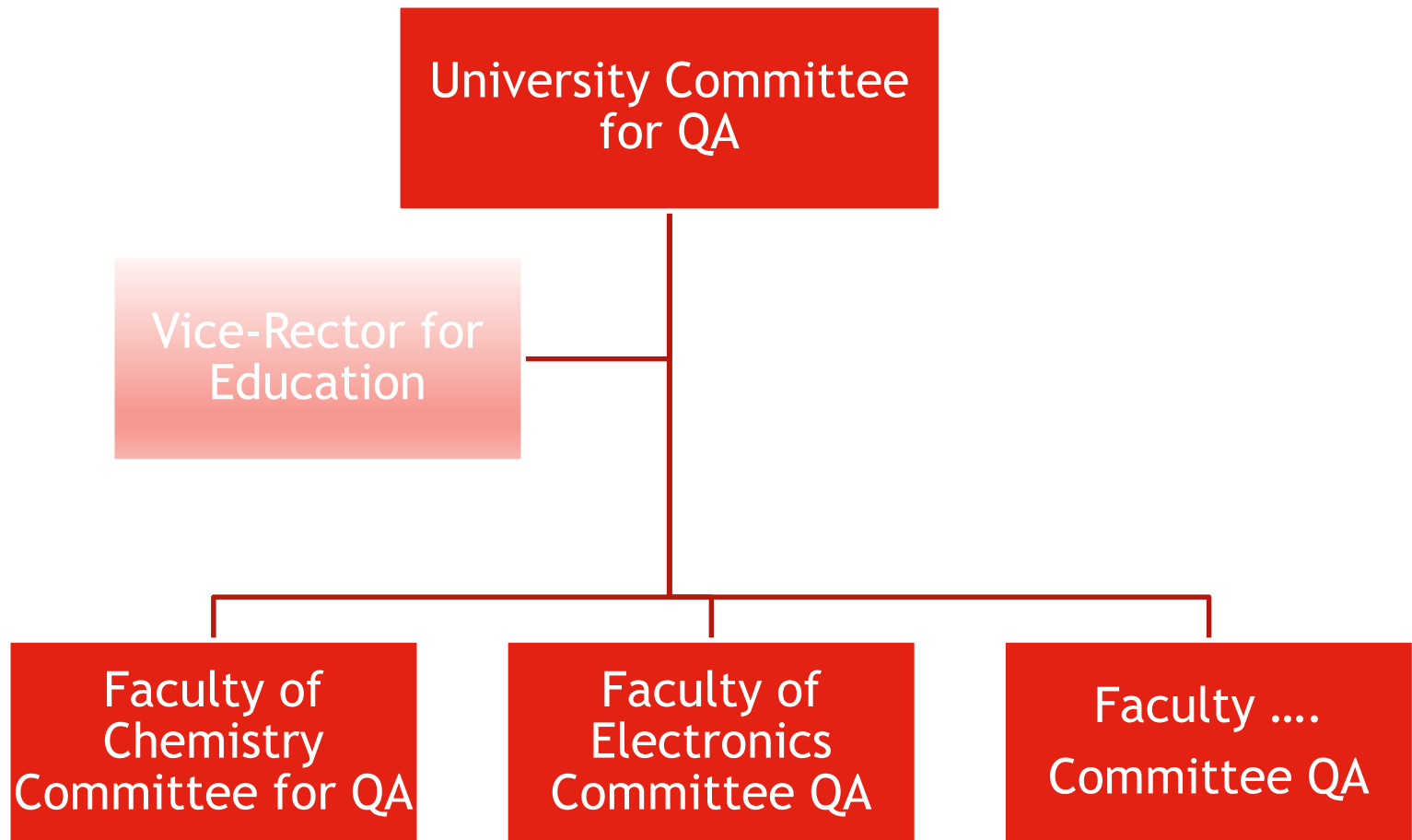
- University expert's role in the society;
- University as a partner in cooperation;
- Dialogue with stakeholders.

## Support services

- Strategy-oriented;
- Needs-oriented;
- Transparent;
- Customer satisfaction.



# QAS General Structure at WRUT





# QUALITY ASSURANCE AT WRUST

- Shaping pro-quality attitudes in the academic environment of the University and building a culture of quality in education and research by inspiring and organizing activities for quality assurance and improvement of training and monitoring of these activities in the Wrocław University of Technology,
- Continuous monitoring of the quality of education at the University.
- Create procedures for periodic and systematic assessment - in consultation and with the participation of representatives of organizational units - the quality of education at the University.
- Providing a permanent public access to the existing programs of education/learning outcomes at all levels and forms of studies conducted at the University.



# University Committee for QA

The chairmen of QA committee is appointed by the Rector according the term of the Rector.

University Committee of QA in education:

- Unit of Quality Assurance in Education (3 members),
- Unit of Evaluation of Quality in Education (3 members).

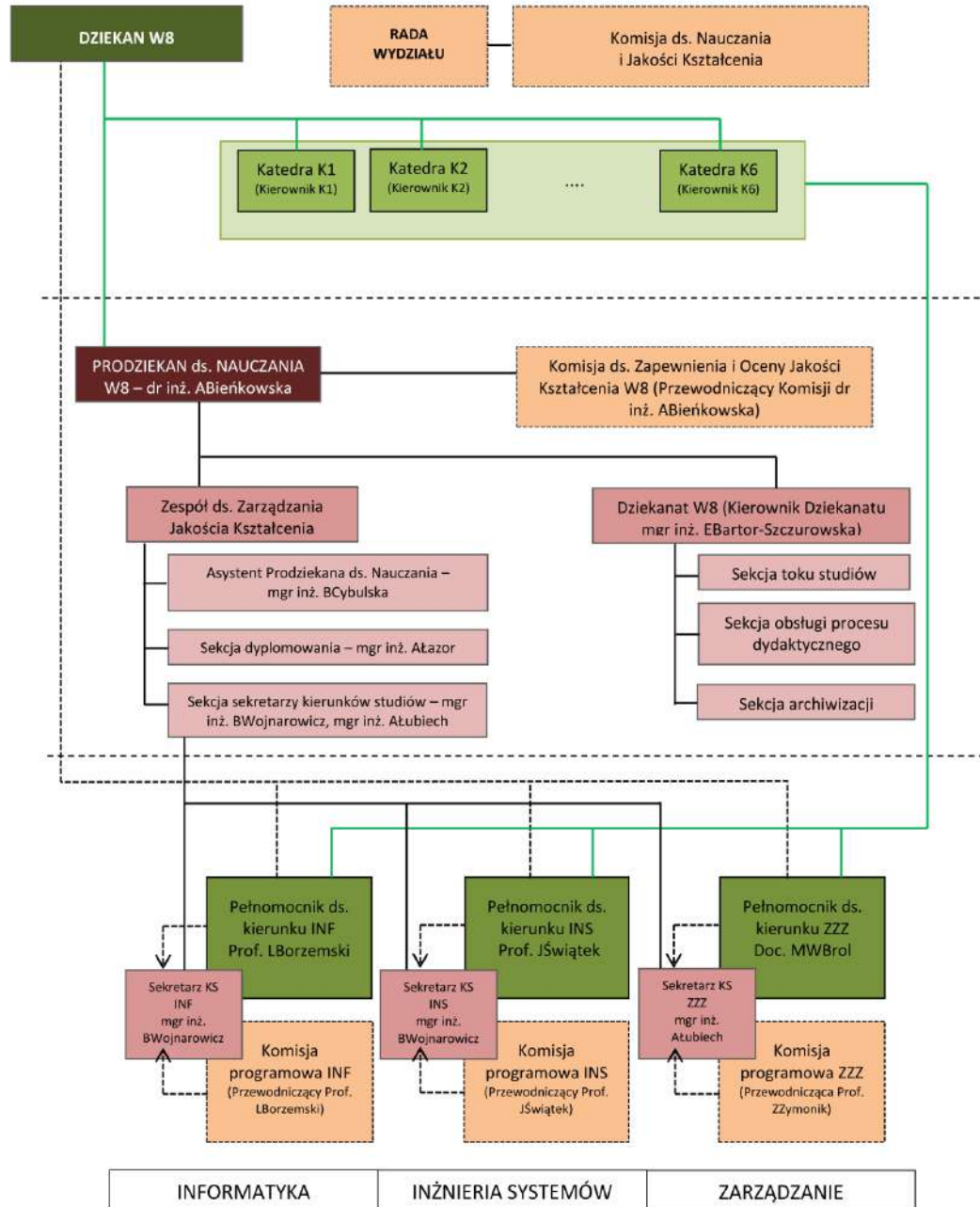
Operational management in cooperation with Vice-Rector for Education.



# Faculty Committee for QA

Composition of Faculty QA committee:

- Vice-Dean for Education,
- Directors of study programmes,
- Directors of PhD programmes,
- Representative of students,
- Representative of PhD students,
- Other Staff appointed by Dean.





<b>Actor</b>	<b>Duties</b>
<b>Dean, Faculty Authorities</b>	Implementation and maintenance QAS
<b>Chairmen of Faculty Departments</b>	Cooperation in above processes
<b>Dean's Plenipotentiaries for study specializations</b>	QA in operational management in the field of specific specialization, dealing with faculty departments
<b>Academic Teachers, Lecturers</b>	Preparation and realization of classes, lectures, projects, workshops, seminars etc. Evaluation of students achievements (learning outcomes).
<b>Unit for Management of Quality of Education</b>	Administrative service to support quality assurance process at faculty.
<b>Dean's Office employees</b>	Direct operational management of educational processes, registration of students for courses, organization of students groups, examination period etc.
<b>Other administrative employees of faculty</b>	Support activities in framework of QAS
<b>Students</b>	Shaping appropriate attitudes, including involvement in the process of QA in education
<b>Representatives of students</b>	Active participation in all activities for improvement educational processes at the faculty, especially in evaluations of improved study programs.





Actor	Duties
Faculty Board	Approval of study programs (described in language of learning outcomes).
Faculty Committee for QA	Coordination and implementation of activities in the framework of faculty QAS.
External Faculty Advisory Board	Evaluation of study programs in terms of needs and expectations of labour market.
Special Faculty Board Committee for Education and Quality Assurance	Preparations of opinions about study programs for Faculty Boards.
Program Committee (separated for each specializations)	Annual update of study programs in order to specific, new needs of labour market, new trends in research etc. Creation of new specializations.
Supervisors of sub-specialization	Annual update of elective part of study programs in order to research development of faculty.
Director of PhD studies	Organization and administration of PhD programs.
Coordinators of Lifelong Learning Programmes	Organization and administration of LLL programs.
Members of class inspections group (appointed by Dean)	Class inspections processes.



# NQF simplification (non-authorised)

- First Degree/Cycle, Undergraduate (Bachelor, Engineer)  
*Is able to apply existing knowledge to solve selected problem.*
- Second Degree/Cycle Postgraduate, Master Level  
*Is able to modify existing knowledge to solve new problem.*
- Third Degree/PhD level  
*Is able to create new knowledge.*



# Learning Outcomes in Poland

- **Humanities**
- **Social Sciences**
- **Science**
- **Natural Sciences**
- **Technical Sciences**
- **Medical Sciences**
- **Agricultural sciences, Forestry and Veterinary**
- **Art**



# Learning Outcomes for specialization

- **KNOWLEDGE**

*Knowledge of various project management methodologies and their features; knows agile methodologies of project management in enterprises.*

- **SKILLS**

*Can choose the hardware and software components of a computer system for specific applications especially in the field of business processes modelling*

- **SOCIAL SKILLS/ATTITUDE**

*Able to think systematically and creatively use advanced methods of systems engineering. Aware of the importance of non-technical aspects of engineering projects, including environmental requirements.*



# Quality of Education

- Internal university (faculty) regulations for education quality assurance
- External regulations for quality assurance of education



# Education Quality Assurance System

## University regulations

### Aims:

- to improve the education quality at WUT
- to improve the status of teaching
- to inform society (candidates, employers, authorities and the region) about the quality of education and research at WUT



# Education Quality - Indicators

- to improve the education quality at WUT

*Students drop level <40%*

- to improve the status of teaching

*Number of participants accomplished certificated Pedagogical Trainings*

- to inform society ...

*Availability of documents on Website.*

*Number of visitors (Google Analytics)*



# Education Quality Assurance System

## University regulations

- Senate regulations for the system of education quality monitoring
  - Regulations for self-assessment at the faculty
  - System of questionnaires for students
  - System of questionnaires for class inspection
- System of security as well as adequate equipment in laboratories





# Education Quality Assurance System

## University regulations

### Components:

- monitoring of academic standards,
- evaluation of education process,
- evaluation of education quality and conditions in which courses are taught,
- evaluation of the availability of information concerning the education,
- elaboration of instruments necessary to realize the system's purposes



# Education Quality Assurance System

## University regulations

Monitoring of academic standards - current analysis of:

- academic staff as regards scientific achievements
- conformity of curricula to approved learning outcomes for specific field
- minimal number of courses taught by professors



# Education Quality Assurance System

## University regulations

Evaluation of the education process on the basis of the field-of-study documentation:

- characteristics of the field of study
- the graduates' profile
- curriculum and the syllabus
- detailed content of all the courses
- ECTS system realization
- requirements for examination procedures
- requirements for dissertations (bachelor, master of science)



# Education Quality Assurance System

## University regulations

### Evaluation of education quality and conditions in which courses are taught

- merit agreement between courses' content and learning outcomes
- conditions of education realization - education infrastructure (lecture halls, laboratories, audio/video media etc.)
- libraries and reading-rooms, access to computer databases and catalogues
- access of students to computer laboratories



# Education Quality Assurance System

## University regulations

### Questionnaires for students:

- obligatory for entire University,
- filled out in voluntary and anonymous way,
- filled out on-line by students.





# Questionnaires for students examples of measures

**Questionnaire for students is about one specific course from current semester.**

**Main evaluation aspects:**

1. Evaluation of the content of given course, mainly based on the impression of the student about content of the course

e.g.

- *whether the course met your expectations?*
- *evaluation of relationship of the course profile with general curriculum*
- *evaluation of the level of deepnes of the course content (advance level)*
-



# Questionnaires for students examples of measures

## Main evaluation aspects:

### 2. Assessment of the technical aspects of the course e.g.

- *classes were conducted in an appropriate pace*
- *lecturer explained difficult issues in an understandable way*
- *the method of teaching was interesting*
- *attitude of lecturer to students*
- *availability of textbooks, acces to the slides, webpage of the lecturer, e-mail exchange and so on.*

### 3. Self-assessment of the students achievements

- *information about average grade level from previous semesters*
- *information about level of attendance during current semester*
- *self-assesment of the knowledge and competences of student in the aspect of evaluated course*
- *average work-load per week for specific course*





# Structure of questionnaires 1

## General Evaluation of the Course

- How the the course has enriched your knowledge about the taught subject?
- Is prerequisites (prerequisites) were determined in proper way?
- Are available books, scripts, etc. assigned to this course in library/on-line access?
- Is the program of the course repeat the content from other courses?
- Is the time spent on the course proper/too short/too long?
- How would you rate the relationship of the course with general profile of education on your field of study?
- Did the course meet your expectations?



# Structure of questionnaires 2

## Technical Evaluation of the implementation of the Course

- Are consultations/contact hours were available to a sufficient level?  
Is participation in the course helped you to understand content of other courses?
- Do classes were implemented in accordance with the syllabus of the course?
- Were methods of teaching in class interesting?
- Has Lecturer clearly presented the issues using support of audiovisual means/projector/presentation etc.?
- Is the material presented was well prepared and presented in consecutive way?
- Has Lecturer led to inspire students to think for themselves?



# Structure of questionnaires 3

## Technical Evaluation of the Course

- Were examples well matched to presented problems?
- Has Lecturer explained difficult issues in an understandable and transparent way?
- Do classes were held at an appropriate tempo?
- Has Lecturer been communicative enough?
- Are the requirements for students clearly defined?
- Has the Lecturer friendly attitude to the students?
- Do classes take place on time and regularly?



# Structure of questionnaires 4

## Self-assessment(?) of respondent

- What was your average grade in the previous semester?  
How often have you participated in the activities of this course?
- How many hours a week in average you devoted to learn this course (excluding class hours)?
- Did you use the opportunity to contact Lecturer during contact hours?
- Do you think you were prepared enough enrolling for this course?
- How would you rate (grade) yourself for this course?
- What was your grade you received for this course?



# Structure of questionnaires 4

## Evaluation of usefulness of Questionnaire

- Do you believe in the usefulness of this survey?
- Whether the results of this survey may be useful for students?
- Should the results of this survey be published?
- Is the survey form understandable/transparent?
- Did you have enough time to complete the survey?



# Education Quality Assurance System

## University regulations

### Class inspection:

- obligatory for all teachers and Ph.D. students
- carried by experienced academic staff, common recognized experts as well as retired professors of WUT



# Questionnaires for class inspection

Dane hospitującego(ych):

..... Wrocław, dn. ....  
 (imię i nazwisko, tytuł, st. naukowy)  
 .....  
 (stanowisko)  
 .....  
 (jednostka)

## Protokół z hospitacji

### 1. Informacje wstępne

1.1. Prowadzący .....  
 1.2. Nazwa kursu .....  
 1.3. Forma dydaktyczna ..... Kod kursu .....  
 1.4. Rodzaj studiów (dienne, zaoczne, mgr, inż.) ..... Semestr .....  
 1.5. Wydział/kierunek/specjalność .....  
 1.6. Miejsce i termin zajęć (budynek, sala, dz. tygodn., godz.) .....

### 2. Ocena formalna zajęć

2.1. Czy zajęcia rozpoczęły się punktualnie ..... **tak nie**<sup>1)</sup>  
 opóźnienie ..... min.  
 2.2. Czy sprawdzono obecność studentów ..... **tak nie nie dotyczy**<sup>1)</sup>  
 2.3. Czy sala i jej wyposażenie jest przystosowane do prowadzonych zajęć ..... **tak nie**<sup>1)</sup>  
 Jeżeli **nie** - to z jakich powodów .....  
 .....  
 2.4. Inne uwagi, wnioski i zalecenia dotyczące formalnej strony zajęć .....  
 .....  
 .....

### 3. Ocena merytoryczna

3.1. Czy treść zajęć jest zgodna z programem nauczania ..... **tak nie**<sup>1)</sup>  
 Jeżeli **nie** - to z jakich powodów .....  
 .....  
 .....

<sup>1)</sup> Zakreślić kółkiem właściwe

### 1.1 Uwagi merytoryczne<sup>1)</sup>

1. Prowadzący posiada wiedzę z zakresu przedmiotu	5	4	3	2
2. Przedstawiony materiał był przygotowany i uporządkowany	5	4	3	2
3. Przykłady były dobrane do omawianych problemów	5	4	3	2
4. Prowadzący aktywnie prowadził zajęcia (m.in. zachęcał do stawiania pytań i problemów)	5	4	3	2
5. Sposób prowadzenia zajęć był interesujący	5	4	3	2
6. Prowadzący był komunikatywny	5	4	3	2
7. Prowadzący posługiwał się poprawnym językiem	5	4	3	2
8. Prowadzący mówił głośno i wyraźnie	5	4	3	2
9. Tempo prowadzonych zajęć	5	4	3	2
10. Prowadzący czytelnie przedstawiał zagadnienia na tablicy lub za pomocą środków audiowizualnych	5	4	3	2

1.2 Godne podkreślenia spostrzeżenia dodatnie .....  
 .....  
 .....

1.3 Spostrzeżenia krytyczne .....  
 .....  
 .....

1.4 Wnioski i zalecenia .....  
 .....  
 .....  
 .....

1.5 Ogólne wrażenie hospitującego(ych): **wyjątkowo pozytywne** **pozytywne** **negatywne**<sup>1)</sup>

.....  
 .....  
 podpis(y) hospitującego(ych)

### Tryb przekazywania uwag i zaleceń

1. Protokoły z hospitacji są wypełniane w jednym egzemplarzu i przekazywane do dziekana z zachowaniem poufności.
2. Hospitujący jest zobowiązany w ciągu 1 tygodnia po hospitacji omówić treść protokołu z hospitowanym, przekazując mu uwagi i zalecenia.

<sup>1)</sup> Zakreślić kółkiem właściwe

5 – bardzo dobrze, 4 – dobrze, 3 – dostatecznie, 2 – niedostatecznie



# Questionnaires for class inspection

## Class inspection:

### 1. Formal assessment of the lecturer

- *punctuality of lecturer,*
- *attendance level of the students (if appropriate, obligatory classes - labs)*
- *technical support of lecture (projectors, computers, special equipment and so on)*

### 2. Assessment of the merits

- *conformity level the content of classes to the syllabus*
- *general impression of inspectors about knowledge and skills of lecturer in the aspect of specific course*
- *proper selection of application's examples*

### 3. General conclusions and remarks. Final assessment.





# Evaluation of Lecturer/Academic Teacher

- Teacher has proper level of knowledge of the provided subject,
- The material presented has been prepared and structured in proper form and order,
- Examples were selected in order to the presented problems,
- Level of Lecturer activity concerning encouragement of students to be interactive (to ask questions, to give remarks etc.),
- Evaluation of the selected by Lecturer method of teaching,
- Teacher was/or not communicative,
- Teacher used the language (Polish/English if appropriate) in correct form, which corresponds to the topics,
- Lecturers spoke loud enough and clear,
- Tempo of classes,
- Lecturers clearly/or not presented the issues with appropriate support of multimedia means of communication.



# Graduate's opinions

## Questionnaires for graduates:

- after completion of studies
- concerning curricula, academic staff, organization of education, organization of faculty
- filled out in voluntary and anonymous way
- monitoring of professional carrier progress of graduates
- assessment of curriculum by alumni in the aspect of it's confirmity to the expectations of employer
- free remarks about improvement of curriculum to make graduates more competitive on the job market



# Education Quality Assurance System

## University regulations

Results of questionnaires for students are transfer to appropriate teacher as a statistics of grades. Each Teacher has opportunity to correct himself/herself. (self-learning organization).

Results of questionnaires for students, graduates and class inspections are used in period teachers evaluations as well as in the process of promoting teachers to higher posts.



# Education Quality Assurance System

## Involvement of students

General meeting of faculty authorities with the students after each examination period, agenda of the meeting is prepared by students council.

Student council consists of students-members of faculty board.

Representatives of student are elected during election among whole students population of the faculty.

Representatives of students are the regular members of Faculty Board with 20% of seats.



# Education Quality Assurance System

## University regulations

- University System of Education Quality Assurance compatible with Faculties' System of Education Quality Assurance:
- Faculty Board has in agenda education quality problems and general assessment report - at least once a year
- Protocols and remarks - presented to the Vice-Rector for Education
- Analysis and assessment of the University system carried out by the WUT Senate



# WUT Accreditation Commission

Appointed for the term of WUT authorities

Aims:

- To supervise the realization of the objectives of the System of Education Quality Assurance
- To approve optional courses (humanities and management, foreign languages, mathematics, physics, computer science, sport) common for all fields of study
- To coordinate activities related to the reform of studies structure

Conclusions presented to the Senate at least once a year

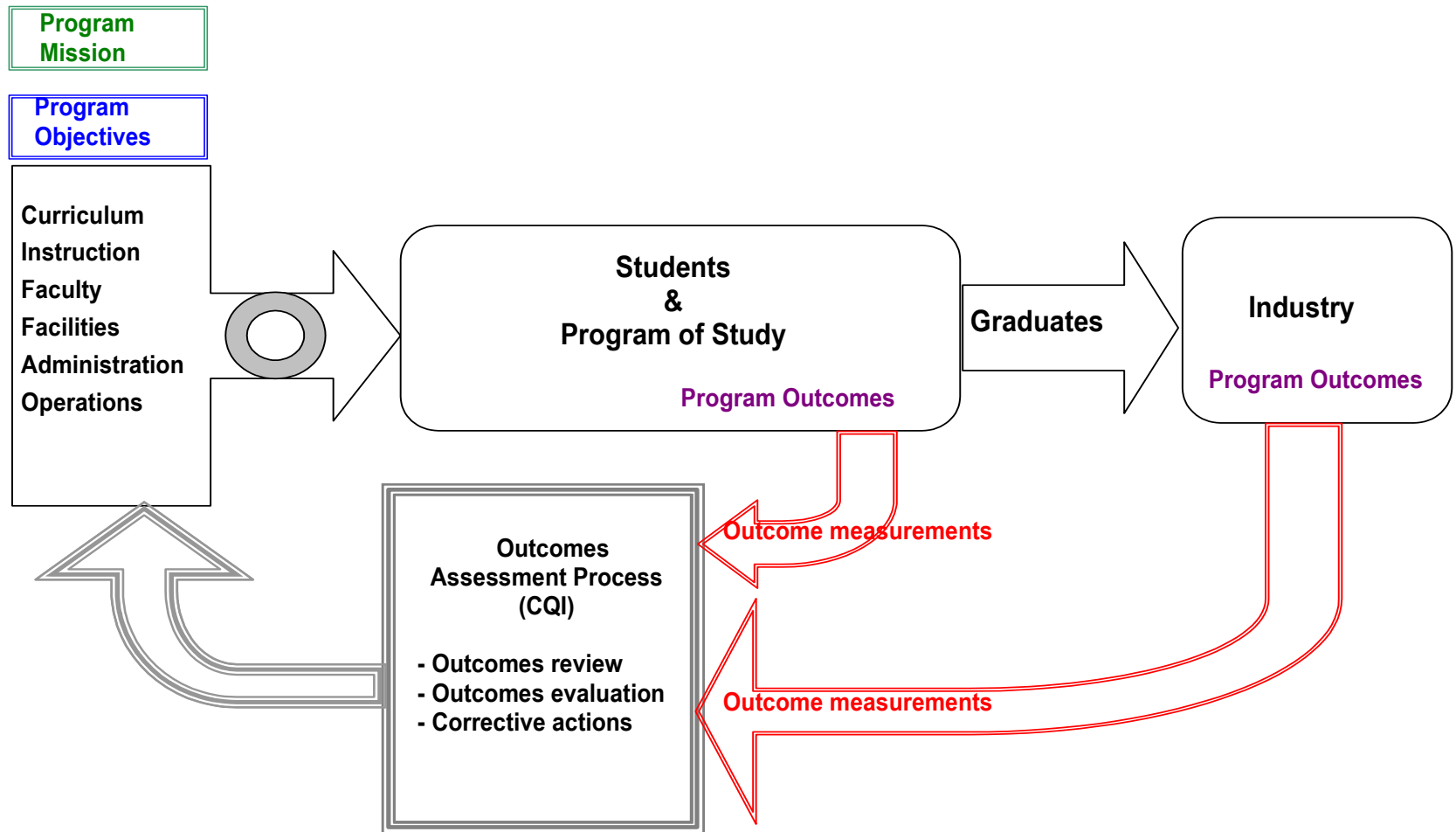


# External quality system of HEI

- Assessment reports to accreditation bodies (Polish Accreditation Committee [PKA](#), Accreditation Agency of Technical Universities [KAUT](#))
- In-situ inspections of accreditation bodies (every 2 or 5 years)
- Institutional accreditation



# Dynamic model of Accreditation







## Permanent cooperation with key stakeholders (IT business)

Internship program for students of the Faculty of Computer Science and Management.

Partner: **HR@IT** club of representatives of HR departments of Wrocław IT companies (mainly local branches of international companies, corporational character of business)

Partner: **ITCorner** - Lower Silesian cluster of Small to Medium-Sized IT enterprises sector (on request of students).

- 2014: 48 candidates, 24 internships (pilot implementation)
- 2015: 122 candidates, 67 internships,
- 2016: 207 candidates, >80 internships (estimated value).



# Employers requests 2015, 2016

## **The need to enrichment student's competences (questionnaire in group of co-working employers)**

- Analytical skills,
- The use of IT tools (advanced),
- Creativity, innovation,
- Communication skills (self-presentation, interpersonal communication),
- Additional (beyond regular curriculum) specialized skills, project management etc.
- Ability to work in teams.

## **Success factors in the labor market indicated by students:**

- Independence (entrepreneurship),
- Foreign languages skills,
- Self-orientation on sustainable development and lifelong learning.



## The short-term outcome of internship program

**Application in Special Government Call for program to support universities in enrichment alumni's competences requested by labour markets  
(total amount requested ~850 000 euro)**

Conclusions from analysis of employers needs let us prepare the work plan for two year for enrichment graduates competences.

Conclusions from analysis of students expectations let us to minimize the risk in the future project.