



Programme Report Academic year 2013 2014

University : Minoufiya University
Faculty : Faculty of Engineering
Department : Mechanical power Engineering

A- BASIC INFORMATION:

1. Programme Title	B.Sc. in Mechanical Power Engineering
2. Specialization	Mechanical Power Engineering
3. Programme Duration	Five year
4. No. of Credit hours/ No. of Courses	53 Courses for 4 year + 11 courses Preparatory
5. Policy for constitution of examiner boards	The department board constitutes the examiner boards
6. External Examiners system	Available <input type="checkbox"/> Unavailable <input checked="" type="checkbox"/>

B- PROFESSIONAL INFORMATION

7. Statistics :			
-No. of Students enrolled in the programme	1 st year	<input type="text" value="164"/>	2 ^{ed} year <input type="text" value="202"/>
	3 rd year	<input type="text" value="121"/>	4 th year <input type="text" value="214"/>
- Percentage of students passing the programme (%)	<input type="text" value="95.97"/>	%	
- Trend of Joining the programme (According to the No. of students Joining the programme in last three years) :	Increasing	<input checked="" type="checkbox"/>	
	Constant	<input type="checkbox"/>	
	Decreasing	<input type="checkbox"/>	
Final exam results :			
- Grading : No. and percentage in each grade [for students who completed the programme]	Excellent	<input type="text" value="7"/>	<input type="text" value="3.27"/> %
	Very Good	<input type="text" value="27"/>	<input type="text" value="12.62"/> %
	Good	<input type="text" value="88"/>	<input type="text" value="41.12"/> %
	Pass	<input type="text" value="53"/>	<input type="text" value="24.77"/> %

8. Academic Standards :	
-Achievement of Programme Intended Learning Outcomes	
- Academic Reference Standards	NARS for Engineering and Mechanical power Engineering
- Knowledge and Understanding	<p><u>Engineering :</u></p> <p>A.1) Concepts and theories of mathematics and sciences, appropriate to the Mechanical Power Engineering.</p> <p>A.2) Basics of information and communication technology (ICT)</p> <p>A.3) Characteristics of engineering materials related to the Mechanical Power Engineering.</p> <p>A.4) Principles of design including elements design, process and/or a system related to Mechanical PowerEngineering.</p> <p>A.5) Methodologies of solving engineering problems, data collection and interpretation</p> <p>A.6) Quality assurance systems, codes of practice and standards, health and safety requirements and environmental issues.</p> <p>A.7) Business and management principles relevant to engineering.</p> <p>A.8) Current engineering technologies as related to Mechanical Power Engineering.</p> <p>A.9) Topics related to humanitarian interests and moral issues.</p> <p>A.10) Technical language and report writing</p> <p>A.11) Professional ethics and impacts of engineering solutions on society and environment</p> <p>A.12) Contemporary engineering topics.</p> <p><u>Power Engineering</u></p> <p>A.13) Fundamentals of thermal and fluid processes</p> <p>A.14) Internal combustion, pumps, turbines and compressors, classification, construction design concepts, operation and characteristics</p> <p>A.15) Fluid power systems</p> <p>A.16) The constraints which mechanical power engineers have to judge to reach at an optimum solution.</p> <p>A.17) Business and management techniques and practices appropriate to mechanical power engineering applications.</p> <p>A.18) Mechanical power engineerin contemporary issues.</p> <p>A.19) .Basic theories and principles of some other engineering and mechanical engineering disciplines providing support to Mechanical Power</p>

<p>- Intellectual Skills :</p>	<p><u>Engineering</u></p> <p>B.1) Select appropriate mathematical and computer-based methods for modeling and analyzing problems.</p> <p>B.2) Select appropriate solutions for engineering problems based on analytical thinking.</p> <p>B.3) Think in a creative and innovative way in problem solving and design.</p> <p>B.4) Combine, exchange, and assess different ideas, views, and knowledge from a range of sources.</p> <p>B.5) Assess and evaluate the characteristics and performance of components, systems and processes.</p> <p>B.6) Investigate the failure of components, systems, and processes.</p> <p>B.7) Solve engineering problems, often on the basis of limited and possibly contradicting information.</p> <p>B.8) Select and appraise appropriate ICT tools to a variety of engineering problems.</p> <p>B.9) Judge engineering decisions considering balanced costs, benefits, safety, quality, reliability, and environmental impact.</p> <p>B.10) Incorporate economic, societal, and environmental and risk management dimensions in design.</p> <p>B.11) Analyze results of numerical models and assess their limitations.</p> <p>B.12) Innovate systematic and methodic approaches when dealing with new and advancing technology.</p> <p>Power Engineering</p> <p>B.13) Evaluate mechanical power and energy engineering designs, processes and performances and propose improvements.</p> <p>B.14) Analyze and interpret data, and design experiments to obtain new data.</p> <p>B.15) Evaluate the power losses in the fluid transmission lines and networks</p> <p>B.16) Analyze the performance of the basic types of internal combustion engines and hydraulic machines</p> <p>B.17) Analysis of fluid power systems, subsystems and various control valves and actuators</p>
<p>- Professional and Practical Skills :</p>	<p><u>Power Engineering</u></p> <p>C.1) Apply knowledge of mathematics, science, information technology, design, business context and engineering practice integrally to solve engineering problems.</p> <p>C.2) Professionally merge the engineering knowledge, understanding, and feedback to improve design, products and/or services.</p> <p>C.3) Create and/or re-design a process, component or system, and carry out specialized engineering designs.</p> <p>C.4) Practice the neatness and aesthetics in design and approach.</p> <p>C.5) Use computational facilities and techniques, measuring instruments, workshops and laboratory equipment to design experiments,</p>

	<p>collect, analyze and interpret results.</p> <p>C.6) Use a wide range of analytical tools, techniques, equipment, and software packages pertaining to the discipline and develop required computer programs.</p> <p>C.7) Apply numerical modeling methods to engineering problems.</p> <p>C.8) Apply safe systems at work and observe the appropriate steps to manage risks.</p> <p>C.9) Demonstrate basic organizational and project management skills.</p> <p>C.10) Apply quality assurance procedures and follow codes and standards.</p> <p>C.11) Exchange knowledge and skills with engineering community and industry.</p> <p>C.12) Prepare and present technical reports.</p> <p><u>Engineering</u></p> <p>C.13) Use basic workshop equipment safely and appropriately.</p> <p>C.14) Prepare engineering drawings, computer graphics and specialized technical reports.</p> <p>C.15) Write computer programs pertaining to mechanical power and energy engineering.</p> <p>C.16) Describe the basic Thermal and fluid processes mathematically and use the computer software for their simulation and analysis</p> <p>C.17) Design, operate, repair and maintain fluid hydraulic power systems for diverse applications</p> <p>C.18) Carry out preliminary designs of fluid transmission networks, internal combustion and steam engines and solve their operational problems.</p> <p>C.19) Work in mechanical power and energy operations, maintenance and overhaul.</p>
<p>General and Transferable Skills :</p>	<p><u>Engineering</u></p> <p>D.1) Collaborate effectively within multidisciplinary team.</p> <p>D.2) Work in stressful environment and within constraints.</p> <p>D.3) Communicate effectively.</p> <p>D.4) Demonstrate efficient IT capabilities.</p> <p>D.5) Lead and motivate individuals.</p> <p>D.6) Effectively manage tasks, time, and resources.</p> <p>D.7) Search for information and engage in life-long self learning discipline.</p> <p>D.8) Acquire entrepreneurial skills.</p> <p>D.9) Refer to relevant literatures.</p>

<p>- Methods of Supporting the Low-Capacity – Students and outstanding students :</p>	<p><u>For low capacity students</u></p> <ul style="list-style-type: none"> - Assign a portion of the office hours for those students. - Give them specific tasks. - Repeat the explanation of some of the material and tutorials. - Assign a teaching assistance to follow up the performance of this group of students. <p><u>For outstanding Students</u></p> <ul style="list-style-type: none"> - Hand out project assignments to those students. - Give them some research topics to be searched using the internet and conduct presentation. -Encourage them to take parts in the running research projects.
<p>-References Assessment standards for the programme :</p>	<p>- Lecture Presentations and Movies Discussions Tutorials Lab Exprements Problem solving Brain storming Projects Site visits Reserch and Roprting Grope Working Discovering Simulation and Modelling</p>
<p>- Guidebook for the programme :</p>	<p>Available <input checked="" type="checkbox"/></p> <p>Unavailable <input type="checkbox"/></p>
<p>- Periodical revision system for the programme :</p>	<p>Available <input checked="" type="checkbox"/></p> <p>Unavailable <input type="checkbox"/></p> <p>Yearly <input type="checkbox"/></p> <p>More than year <input type="checkbox"/></p>
<p>- Adequacy of the programme academic Structure With the outcomes :</p>	<p style="text-align: center;">Adequate</p>
<p>- Management and organization defects :</p>	<p>Some experimental apparatus in the laboratories are out of order and require ,manitance this default due to the financial support diffused visual media laboratories , classroom , and data show for the lecturer room are needed</p>

9. Students assessment to measure the achievement of the Intended learning outcomes (ILOs)	
- Assessment Tools :	Final Examination (written) End of term assessment (Oral) End of term laboratory examination (Lab) Laboratory reports Quiz Assessment (Term Work)) Mid term written exam 2 (Term Work) Tutorial and report assessment (Term Work)
- Schedules :	A. The Facilities required are video projector (data show) pc computer of laptop lecture halls study rooms , B. Library Usage: Students should be encouraged to use library technical resources in the preparation of laboratory reports and oral presentation. At least one oral presentation should involve a significant component of library research to encourage this component of study. C. Laboratory Usage Students should be conduct some laboratory experiments relating to the course topics and prepare and submit a laboratory reports . There is set of experiments must be handed out to each student . The laboratory experiments are conducted under the supervision of the course professor with the aid of the course teaching assistance .
- External reviewer	
- Comments (if any) :	
10- Learning resources :	
- Ratio of department members to students :	16 Student /1 department member
- Matching of department members specialization to programme needs :	Adequate <input checked="" type="checkbox"/> Adequate to some extent <input type="checkbox"/> Inadequate (Why ?) <input type="checkbox"/>
- Adequacy of library :	Adequate <input checked="" type="checkbox"/> Adequate to some extent <input type="checkbox"/> Inadequate (Why ?) <input type="checkbox"/>
- Adequacy of laboratories :	Adequate <input type="checkbox"/> Adequate to some extent <input checked="" type="checkbox"/> Inadequate (Why ?) <input type="checkbox"/>

- Adequacy of computer facilities :	Adequate <input checked="" type="checkbox"/> Adequate to some extent <input type="checkbox"/> Inadequate (Why ?) <input type="checkbox"/>
- Extent of cooperation with industry and business community in providing training opportunities for students :	Adequate to some extent
- Any other programme needs :	
<i>11- Quality management and development</i>	
- Follow up system for defects sides .	Effectual <input checked="" type="checkbox"/> Effectual to some extent <input type="checkbox"/> Ineffectual (Why ?) <input type="checkbox"/>
- Effectiveness of faculty and University laws and regulations :	Adequate <input type="checkbox"/> Adequate some extent <input checked="" type="checkbox"/> Inadequate (Why ?) <input type="checkbox"/> List any inadequacies <input type="checkbox"/>
- Effectiveness of internal revision system in development the programme :	Effectual extent
- Comments of external reviewers in respect to the programme ILOs and assessment standards	- The Semester work degrees should be increased to evaluate the student work during the term

12- Proposals for programme development

-Programme Structure

(Courses/hours)

PROGRAM STRUCTURE

Program structure	Program level		Hours / week			Total	Total hrs/week	
	year	Semester	Lecture	Tutorial	Practical	hrs	Compulsory	Elective
Pre	1st		15	11	4	30	30	0
	2ed		15	10	7	32	32	0
1st	3ed		14	9	7	30	30	0
	4th		15	11	4	30	30	0
2ed	5th		16	9	4	29	29	0
	6th		16	8	6	30	30	0
3rd	7th		17	10	3	30	18	5
	8th		17	9	4	30	19	4
4th	9th		14	11	5	30	22	8
	10th		17	9	4	30	18	12
Total for prial of system			156	97	48	301	272	29
			51.831	32.221	15.95	100%	90.36	9.64

- Courses , deletions and additions and modifications	At the present time the department A modified department programme course
- Training and Skills	- To increase the student skills in engineering drauing (4 weeks in summer) - To increase the student practical skills in mechanical power engineering field by training in factories and industrial originations. Also the students will be able to improve their communication skills through this training .
- Stakeholders recommendations for development of the programme	In the final year project discussion some stack holders are invited , Thought the dissuasion with the student and department staff they propose some practical point to improve Mechanical power engineering program .
- Preson responsible	- Dean of faculty - Vice dean of faculty - Head of department - Mangement Manger
- Completion date	Aug. 2012

Programme Coordinator :

Head of Department :

Signature :

Signature :

Date :

Date :