

## T6. Course Specification (CS)

Institution	Najran University	Date	4-5-1439

### A. Course Identification and General Information

1. Course title and code		General Topology /471 math-3	
2. Credit hours:		3 hours	
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs)		(	
		Mathematics	
4. Name of faculty member responsible for the		Associate Prof. Dr. AbdulGawad Al-Qubati	
5. Level/year at which this course is offered :		Level 6 /year 3	
6. Pre-requisites for this course (if any)		None	
7. Co-requisites for this course (if any)		None	
8. Location if not on main campus:		college of Science and Arts –Najran –Dept. of Math. /Male-Female Sharoura :college of Science and Arts –Najran –Dept. of Math. /Male-Female	
9. Mode of Instruction (mark all that apply)			
a. Traditional classroom	<input type="checkbox"/>	What percentage ?	<input type="checkbox"/>
b. Blended (traditional and online)	<input checked="" type="checkbox"/>	What percentage?	100
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="checkbox"/>
d. Correspondence	<input type="checkbox"/>	What percentage?	<input type="checkbox"/>
f. Other	<input type="checkbox"/>	What percentage?	<input type="checkbox"/>
Comments			

### B. Objectives الأهداف

1. What is the main purpose for this course ?

1. *Providing the scientific facts and concepts about topology.*
2. *Providing the appropriate amount of information that help to absorb the concepts of topology.*
3. *Finding the relationship between topology and other sciences.*
4. **Training students on how to write proofs in topology.**

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

- Review the plan at the Council of the department of each academic year for the purpose of development and improvement.
- Study the learning difficulties faced by students while studying the course.
- Review the results of the students and analyzed qualitatively out the most important recommendations about the course.
- Encourage students to use the Internet and the site of the teacher of the course.
- Using e-learning system such as Blackboard in the course.
- Compare syllabus are presented with other sections of local, regional and global. Update learning resources for course regularly using the Internet.

**C. Course Description (Note: General description in the form used in the Bulletin or handbook should be attached.**

#### Course Description

**This course introduces foundations of topology , covering topics fundamental to modern analysis and geometry. It also deals with subjects like topological spaces and continuous functions, connectedness, compactness, separation axioms, and selected further topics such as function spaces, metrization theorems, and embedding theorems.**

1. Topics to be Covered		
1 Topics to be Covered	No. of Weeks	Contact Hours
List of Topics	No of Weeks	Contact hours

<b>Topological spaces ( Concept of topology- Metric Topologies -open and closed sets-Neighborhood and neighborhood systems- Base for a topology. Sub bases.</b>	3	9
<i>Fundamental sets and fundamental points (limit points – derived set-closure of sets- interior point –exterior points- boundary point fundamental theorems for them).</i>	2	6
<b>Coarser and finer topologies. Subspaces, relative topologies.</b>  <b>Continuous functions –open function –closed functions-homeomorphisms .hereditary and topological properties)</b>	3	9
<b>Connectedness(connected spaces-CONTINUITY AND CONNECTEDNESS-LOCALLY CONNECTEDNESS)-</b>	2	6
<b>Compactness (compact sets- compact spaces-finite intersection property-continuity and compactness)</b>	3	9
<b>Separation axioms (<math>T_i</math> – spaces, <math>i = 1,2,3,4</math>), regular space-normal space with topological properties.</b>	2	6

1. Course components (total contact hours and credits per semester):						
	Lecture	Tutorial	Laboratory or studio	Practical	Other:	Total
Contact Hours	45	-	-	-	-	45
Credit	3	-	-	-	-	3

3-Additional private study/learning hours expected for students per week	6
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4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy.
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On the table below are the five NQF Learning Domains, numbered in the left column.

**First**, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table)

**Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes.

**Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain).

Every course is not required to include learning outcomes from each domain.

	NQF Learning Domain and Course Learning Outcomes	Course Teaching strategies	Course Assessment Methods
1.0	<b>Knowledge.</b> <b>By the end of the semester, the students will be able to</b>		
1.1	<b>Memorize basic concepts about topology.</b>	<b>Method of discussion</b>  <b>problem solving</b>	<b>- Exams, homework, and quizzes</b>

1.2	Define the concepts of topology.	methods	Exams
1.3	Describe <b>types</b> of topological spaces.(separation axioms)	<i>Lectures and Tutorials</i>	Collaborative learning and Team work
2.0	Cognitive Skills: <b>By the end of the semester, the students will be able to</b>		
2.1	<b>Apply the conditions of Topological spaces.</b>	<b>-Method of collaborative learning.</b>	<b>Quizzes</b>
2.2	<b>- Create examples of spaces.</b>	<b>- Method to solve problems</b>	<b>Summary reports</b>
2.3	<b>- Distinguish between topological spaces.</b>		<b>Exams</b>
2.4	<b>- Use the concepts of topology in usual topological space.</b>		<b>Homework assignments</b>
2.5	<b>- Write proofs in topology</b>	<b>-Method of the debate.</b> .	
3.0	Interpersonal Skills & Responsibility <b>By the end of the semester, the students will be able to</b>		
3.1	Work collectively with peers in an atmosphere of cordiality and mutual understanding with respect to the positions semi -real.	Method of observation. and collaborative learning	- Evaluation methods is optional (note - the interview questionnaire - Standards appreciation).
3.2	Acquire social skills and appropriate communication by talking and to express their opinions and respect for the ideas and experiences of their colleagues.	Method of observation. and collaborative learning	<i>Evaluation methods is optional (note - the interview questionnaire - Standards appreciation</i>
3.3	Acquire necessary social skills and appropriate communication.		Oral presentation
4.0	Communication, Information Technology, Numerical <b>By the end of the semester, the students will be able to</b>		
4.1	Operate in the Internet to expand his	Way of practical	Direct observation

	mind regarding the course of Topology	exercises. and the survey.	
4.2	Research the information to achieve the accumulation of knowledge related to the course of the topology.	Using the Web Quest. -Using computer.	-Direct observation and exams -Observation and continuous evaluation.-questionnaires students to know the opinion of the student.
5.0	<b>Psychomotor</b>		
5.1	NOT APLICABLE	----	----
5.2	----	----	----

5. Schedule of Assessment Tasks for Students During the Semester			
Assessment	Assessment task (eg. essay, test, group project, examination etc.)	Week due	Proportion of Final Assessment
1	Midterm Exam1	6	25
2	Midterm Exam 2	12	25
3	Final Exam	16	50

#### ***D. Student Academic Counseling and Support***

1. Arrangements for availability of teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

- Action of faculty members for advice and guidance of a student's academic.
- Office hours 3hr/ week.
- Follow-up of the academic advisor

#### ***E Learning Resources***

1. List Required Textbooks
رمضان أحمد عبدالقادر, العدوي طه مرسى , التوبولوجي العام, الرياض مكتبة الرشد (1436هـ - 2005 م)
2. List Essential References Materials (Journals, Reports, etc.)
1. Kelly, J. L., General Topology, D. Van Nostrand Co., Inc., Princeton, N.J. 1955 2. Schaum's Outline of General Topology, Seymour Lipschutz, 1965
3. List Electronic Materials Web Sites, Facebook, Twitter, etc.
<a href="http://en.wikipedia.org/wiki/Functional_analysis">http://en.wikipedia.org/wiki/Functional_analysis</a> <a href="http://www.arab-math.com/forum/forumdisplay.php?f=7">http://www.arab-math.com/forum/forumdisplay.php?f=7</a> <a href="http://www.arab-math.com/forum/forumdisplay.php?f=7">http://www.arab-math.com/forum/forumdisplay.php?f=7</a> <a href="http://en.wikipedia.org/wiki/Mathematics">http://en.wikipedia.org/wiki/Mathematics</a> <a href="http://en.wikipedia.org/wiki/Topology">http://en.wikipedia.org/wiki/Topology</a>
4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.
None

#### ***F. Facilities Required***

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.):
<ul style="list-style-type: none"> <li>- Classrooms</li> <li>- <i>Teaching classes equipped with white board and display screen for (40) students</i></li> </ul>
2. Computing resources (AV, data show, Smart Board, software, etc.):
<ul style="list-style-type: none"> <li>- Data show</li> <li>- Smart Board</li> </ul>
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)
None

#### G. Course Evaluation and Improvement Processes تقييم المقرر الدراسي وعمليات تحسينه

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching
<ul style="list-style-type: none"> <li>• The distribution of questionnaires to the students at the end of the semester to get the special assessment to the decision.</li> <li>• Interview a sample of students enrolled in the course to take their views.</li> <li>• Follow-up over the performance and interaction of students with the course through attendance and tests. Follow-up over the performance and interaction of students with the course through attendance and tests.</li> </ul>
1. Other Strategies for Evaluation of Teaching by the Instructor or by the department.
2. <ul style="list-style-type: none"> <li>• Presentation of the results of a sample of students on an external reviewer.</li> <li>• Qualitative analysis of the results of the students.</li> <li>• Box-mail suggestions.</li> </ul>
3. Processes for Improvement of Teaching:
<ul style="list-style-type: none"> <li>- Training programs and workshops for faculty members on the most important teaching methods based around the learner.</li> <li>- Self-assessment by course teacher.</li> <li>- Creating the right atmosphere for students through social programs, entertainment, and so on.</li> <li>- Upgrading of the relationship between teacher and student to be a human relationship.</li> <li>- Follow the new teaching strategies.</li> <li>- Use the Internet to introduce some useful sites for the course.</li> </ul>



4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- Check and correct sample of student work by faculty members are independent.
- Exchange periodically to correct or sample tests with a faculty member of the same specialty in other faculties.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement:

- Hosting a visiting teacher for evaluating and developing the course with teacher of the course.
- Periodic meetings with outstanding students to see the positive and negative aspects in the course.
- Comparison between this course with similar courses in the corresponding faculties of other universities.
- Assisted by specialists in the design and planning of programs and courses.
- Update the sources of learning of the course to make sure to keep abreast of developments in the field.
- Statistical results to assess the students' course and to benefit from its results in the improvement and development of the course.

Name of instructor: **Associate Prof. Dr. AbdulGawad Al-Qubati** \_\_\_\_\_

Signature \_\_\_\_\_ Date Report Completed: **4-5-1439** \_\_\_\_\_

Name of field experience teaching staff : \_\_\_\_\_

Program coordinator : **Dr:Hamoud Al-Hadad** \_\_\_\_\_

Signature: \_\_\_\_\_ Date received: \_\_\_\_\_