



**RAMAIAH  
UNIVERSITY**  
OF APPLIED SCIENCES

**M.S. Ramaiah University of Applied Sciences**  
**Programme Structure and Course Details**  
**Of**  
**MS ENT 2022 onwards**

**M.S. Ramaiah University of Applied Sciences**  
**Ramaiah Medical College**

  
Registrar  
M.S. Ramaiah University of Applied Sciences  
Bangalore - 560 054

  
Principal and Dean  
M.S. Ramaiah Medical College and Hospital  
M.S. Ramaiah University of Applied Sciences  
Bangalore-560054

  
Dean - Academics  
M.S. Ramaiah University of Applied Sciences  
Bangalore-560054



**RAMAIAH  
UNIVERSITY**  
OF APPLIED SCIENCES

**M.S. Ramaiah University of Applied Sciences**

**Programme Specifications**

**MS ENT Programme 2022 onwards**

**Programme Code: MD149**

**M.S. Ramaiah University of Applied Sciences**

**Ramaiah Medical College**

*Shalini*

Principal and Dean  
M.S. Ramaiah Medical College and Hospital  
M.S. Ramaiah University of Applied Sciences  
Bangalore-560054



*Maha Yash*

Dean - Academics  
M.S. Ramaiah University of Applied Sciences  
Bangalore-560054

# University's Vision, Mission and Objectives

The M. S. Ramaiah University of Applied Sciences (MSRUAS) will focus on student-centric professional education and motivates its staff and students to contribute significantly to the growth of technology, science, economy and society through their imaginative, creative and innovative pursuits. Hence, the University has articulated the following vision and objectives.

## Vision

MSRUAS aspires to be the premier university of choice in Asia for student centric professional education and services with a strong focus on applied research whilst maintaining the highest academic and ethical standards in a creative and innovative environment

## Mission

Our purpose is the creation and dissemination of knowledge. We are committed to creativity, innovation and excellence in our teaching and research. We value integrity, quality and teamwork in all our endeavors. We inspire critical thinking, personal development and a passion for lifelong learning. We serve the technical, scientific and economic needs of our Society.

## Objectives

1. To disseminate knowledge and skills through instructions, teaching, training, seminars, workshops and symposia in Engineering and Technology, Art and Design, Management and Commerce, Health and Allied Sciences, Physical and Life Sciences, Arts, Humanities and Social Sciences to equip students and scholars to meet the needs of industries, business and society
2. To generate knowledge through research in Engineering and Technology, Art and Design, Management and Commerce, Health and Allied Sciences, Physical and Life Sciences, Arts, Humanities and Social Sciences to meet the challenges that arise in industry, business and society
3. To promote health, human well-being and provide holistic healthcare
4. To provide technical and scientific solutions to real life problems posed by industry, business and society in Engineering and Technology, Art and Design, Management and Commerce, Health and Allied Sciences, Physical and Life Sciences, Arts, Humanities and Social Sciences
5. To instill the spirit of entrepreneurship in our youth to help create more career opportunities in the society by incubating and nurturing technology product ideas and supporting technology backed business
6. To identify and nurture leadership skills in students and help in the development of our future leaders to enrich the society we live in
7. To develop partnership with universities, industries, businesses, research establishments, NGOs, international organizations, governmental organizations in India and abroad to enrich the experiences of faculties and students through research and developmental programmes

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Programme Specifications

|                    |   |
|--------------------|---|
| Faculty            | Ramaiah Medical College                     |
| Department         | Otorhinolaryngology and Head & Neck Surgery |
| Programme          | MS ENT Head & Neck Surgery                  |
| Programme Code     | MS149                                       |
| Dean of Faculty    | Dr Shalini C Nooyi                          |
| Head of Department | Dr Chandrakiran C                           |

1. **Title of The Award:** MS in Otorhinolaryngology and Head & Neck Surgery (ENT)
2. **Mode of Study:** Full Time
3. **Awarding Institution /Body:** M.S. Ramaiah University of Applied Sciences
4. **Joint Award:** Not Applicable
5. **Teaching Institution:** Ramaiah Medical College
6. **Date of Programme Specifications:** September 2022
7. **Date of Programme approval by the academic Council of MSRUAS:** 27<sup>th</sup> September 2022
8. **Programme Approving Regulating Body and Date of Approval:** National Medical Council of India
9. **Rationale for the Programme**

Otorhinolaryngology - Head and neck surgery is a regional speciality involving medicine and surgery of Ear, Nose, Throat and Head and Neck diseases. The otolaryngologist deals with problems in many subspecialties in this field, including otology, neurotology, rhinology, allergy, laryngology, bronchoesophagology, head and neck surgery, and facial plastic and reconstructive surgery. The breadth of this field and the complexity of the problems encountered can make the initial contact with this discipline a daunting experience. Development of the field has been facilitated by numerous technological inventions and scientific discoveries in the basic science area as well as in clinical medicine. Globalization and modernization in the growing population has brought a surge in the demand for aesthetic treatment options as well. Research in material science technology and on the disease process has made improved patient care delivery a reality. The need of the hour is prevention, interception as well as treatment of the disease at the most appropriate time. There is global demand for ENT surgeons who are highly skilled in this field. The need of the hour is hence to train specialists with sound scientific knowledge and skills to tackle ethically varied challenging clinical scenarios affecting the Ear, nose, throat and head and neck diseases with ease and proficiency.

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**Educational Aims of the Programme**

The Goal of MS in Otorhinolaryngology and Head & Neck Surgery (ENT) is to train a doctor to become a competent teacher and researcher in ENT who:

- Is aware of *contemporary advances and developments* in the field of Otorhinolaryngology.
- Has *acquired the competencies* pertaining to the subject of Otorhinolaryngology that are required to be practiced at all levels of health system.
- Is able to discharge responsibilities and participate in National Health Education Programme.
- Is oriented to the *principles of research methodology*.
- Has acquired *skills in educating* medical and paramedical professionals.
- Has acquired *skills in effectively communicating* with the students and colleagues from various medical and paramedical fields.
- Has acquired skills of integrating Otorhinolaryngology with other disciplines as and when needed.
- Has acquired qualities of a good teacher capable of innovations in teaching methodology.
- Has been able to demonstrate adequate management skills to function as an effective leader of the team engaged in teaching and research.

**Program Outcomes (PO) for MS ENT post graduate students**

**At the end of the program the postgraduate students should**

**PO1.** Develop the knowledge, skills and attitude to be a competent otorhinolaryngologist (C, P).

**PO2.** Demonstrate a commitment to excellence and continuous professional development with integrity, compassion and sensitivity to patient care. (A)

**PO3.** Acquire and develop the knowledge, skills and attitude required to be a competent and ethical researcher and teacher. (A, C, P)

**PO4.** Be able to independently perform diagnostic and surgical procedures applicable to his speciality with a reasonable degree of professionalism and competence. (P)



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Programme specific outcome (PSO) for MS ENT Postgraduate students

**At the end of the Program, the students should be able**

**PSO 1.** Demonstrate adequate understanding of the anatomy and physiology of otorhinolaryngology and head, neck and its clinical applications related to the speciality and to be able to assimilate this knowledge into Clinical practice. (C,P)

**PSO2.** Demonstrate the ability to evaluate scientific/clinical information in otorhinolaryngology and head, neck surgery and critically analyze conflicting data and hypothesis. (C,P)

**PSO3.** Practice his/her speciality efficiently and effectively, backed by scientific knowledge and skills with sufficient understanding of basic sciences, recent advances and clinical applications, keeping in mind the requirement of the patient, community and people at large. (A,C,P)

**PSO4.** To acquire a strong clinical basis with sound knowledge base to develop the cognitive, psychomotor, research, promotive, preventive, curative and rehabilitative aspects of health and diseases in the specialty of ENT required to enable a postgraduate to undertake the independent practice of ENT at a specialist level. (A,C,P)

**PSO5.** To acquire skills in teaching, research methodology, epidemiology, biostatistics, paper & poster preparation, writing research papers, thesis and participate in national health education programs. (C,P)

**PSO6.** To teach students effectively by using appropriate learning resources, teaching methodology and to acquire skills of integrating Otorhinolaryngology with other disciplines as and when needed. (C,P)

**PSO7.** To recognize continuous educational needs and update their knowledge regarding recent advances, latest diagnostics & therapeutic advancements, developments and medico-legal aspects in otorhinolaryngology. (A,C,P)

**PSO8.** The student should develop integrity, accountability, respect, compassion, honest work ethics and empathetic behaviour with patients, students and colleagues. (A,C)

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Bangalore-560054

Maha Y Rao  
Dean - Academics

M.S. Ramaiah University of Applied Sciences  
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Course – PO-PSO Mapping

| Course Code and name   | Program Outcomes<br>POs |     |     |     | Program Specific Outcomes<br>PSOs |      |      |      |      |      |      |      |
|--|-------------------------|-----|-----|-----|-----------------------------------|------|------|------|------|------|------|------|
|  | PO1                     | PO2 | PO3 | PO4 | PSO1                              | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 | PSO7 | PSO8 |
| MSC517A<br>Basic Sciences related to Otolaryngology                | 3                       | 1   | 3   | 2   | 3                                 | 1    | 1    | NA   | 3    | 1    | 1    | NA   |
| MSC518A<br>Principles and Practices of Otolaryngology              | 2                       | 3   | 3   | 2   | 2                                 | 3    | 2    | 2    | 3    | 2    | 2    | 1    |
| MSC519A<br>Recent advances in Otolaryngology and Head Neck surgery | 2                       | 2   | 3   | 2   | 2                                 | 3    | 2    | 2    | 2    | 2    | 1    | 1    |
| MSC520A<br>General Surgical Principles and Head-Neck Surgery       | 3                       | 3   | 2   | 2   | 3                                 | 2    | 3    | 2    | 3    | 2    | 2    | 1    |
| MSP505A Thesis – Otolaryngology                                    | 2                       | 3   | 2   | 1   | 1                                 | 2    | 2    | 2    | 3    | 2    | 1    | 2    |

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Dean - Academics  
M.S. Ramaiah University of Applied Sciences  
Bangalore-560054



**11. Regulations:****(A) Attendance, Progress and Conduct**

1. A candidate pursuing degree course should work in the concerned department of the institution for the full period as a full time student. No candidate is permitted to run or work in clinic/nursing home while studying postgraduate course. No candidate shall join any other course of study or appear for any other examination conducted by this university or any other university in India or abroad during the period of study.
2. Each year shall be taken as a unit for the purpose of calculating attendance. Attendance of 80% every term is mandatory for appearing in the final university examination.
3. Every student shall attend symposia, seminars, conferences, journal review meetings, grand rounds, CPC, case presentation, clinics and lectures during each year as prescribed by the department and not absent himself / herself from work without valid reasons.
4. Every candidate is required to attend a minimum of 80% of the training during each academic term of the post graduate course. Provided further, leave of any kind shall not be counted as part of academic term without prejudice to minimum 80% attendance of training period every term
5. Any student who fails to complete the course in the manner stated above shall not be permitted to appear for the University Examinations.

**(B) Monitoring of progress of Studies**

1. Work diary / Log Book - Every candidate shall maintain a work diary and record of his/her participation in the training programmes conducted by the department such as case presentation, journal reviews, seminars, etc. as per the model checklists and logbook specimen copy.
2. Special mention may be made of the presentations by the candidate as well as details of clinical or planning procedures, if any conducted by the candidate. The work diary shall be scrutinized and certified by the Head of the Department and Head of the Institution, and presented in the university practical/clinical examination.
3. Procedure for defaulters: There will be a committee constituted by all teachers to review such situations. The defaulting candidate is counselled by the guide and head of the department. In extreme cases of default, the departmental committee may recommend that defaulting candidate will be withheld from appearing the examination, if she/he fails to fulfil the requirements in spite of being given adequate chances to set himself or herself right.
4. Each student will be posted in Government Hospitals for 3 months as a part of DRP as per NMC.

**12. TEACHING AND LEARNING METHODS**

During the course, students should have formal training in teaching and research. The sessions should be in the form of:

**1. Didactic Teaching**

- a. Topics in basic otorhinolaryngology, rhinology, otology, laryngology, head and neck surgery, facial plastics and reconstruction taught by faculty members with integration with respective Clinical Departments.

*Shalini*  
Dean  
M.S. Ramiah Medical College and Hospital  
M.S. Ramiah University of Applied Sciences  
Bangalore-560054



*Heel Y Rao*  
Dean - Academics  
M.S. Ramiah University of Applied Sciences  
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2. **Training in communication skills** - journal club, seminars, pedagogy, demonstrations, tutorials, lectures, quizzing.
3. **Hands-on experience** - techniques in temporal bone dissection and Endoscopic sinus surgeries.
4. **Teaching:** participate in the teaching and training programme of undergraduate students and interns.
5. Participate in seminars, group-discussions, and journal clubs and case discussions.
6. **Educational technology** - preparation of Audio Visual aids for teaching, posters/manuscripts for presentation in conferences/workshops and publication in journals.
7. Participation in formulating evaluation methods: Setting objective questions, Short Answer Questions, Multiple Choice Questions and Objective Structured Practical Examination (OSPE).
8. Prepare teaching modules.
9. Participation in organization of workshops
10. **Case discussion:** Recommended to be held once a week. All the PG students are
  - a. expected to take the case and present the case and actively participate in discussion and enter in the log book the relevant details. The presentations will be evaluated using check lists and will carry weightage for internal assessment. A timetable with names of the students and the moderator will be announced in advance.
11. Ward rounds: Ward rounds may be service or teaching rounds.
12. **Service rounds:** Postgraduate students should do service rounds every day for the care of the patients. Newly admitted patients should be worked up by the post graduate student and presented to faculty members the following day.
13. Teaching rounds: Each unit should have 'grand rounds' for teaching purpose at the bedside. A diary should be maintained for day-to-day activities by the postgraduate students.
14. Comprehend ethical aspects of biomedical research.
15. Comprehend the basis of disposal of biomedical waste.
16. **Rotations:** A major portion of posting should be in ENT Department. It should include in-patients, out-patients, ICU, trauma, emergency room, specialty clinics including Vertigo Clinic, Headache Clinic, Voice Clinic, Cancer Clinic, Cadaveric dissection Lab, Audiology and speech therapy.
  - a. Inter-unit rotation in the department should be done for a period of up to one year.

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- b. Rotation in appropriate related subspecialties for a total period not exceeding 6 months.

Rotational posting in other Departments:

|                          |         |
|--------------------------|---------|
| Neurosurgery             | 2 weeks |
| Plastic surgery          | 2 weeks |
| Head & Neck Oncology     | 4 weeks |
| Speech & Hearing         | 2 weeks |
| Facio- maxillary surgery | 2 weeks |
| Anaesthesia              | 2 weeks |

2. **Log Book:** Every student should maintain a logbook in which a record of the practical exercises completed should be entered. The Log books shall be checked and assessed periodically by the faculty members imparting the training.
3. **Basic Research Methodology Course:** It is mandatory to complete the NMC prescribed online Basic research methodology course during first academic year. This is to introduce the student to basic research methods and to facilitate the completion of dissertation work in partial fulfilment of the course requirements. A postgraduate student would be required to present one poster presentation, to read one paper at a national / state conference and to present one research paper which should be published / accepted for publication during the period of his postgraduate studies so as to make him eligible to appear at the postgraduate degree examination. **Topics for the above presentation / publication should be other than the thesis work.**
4. Department encourages e-learning activities.

### 13. Innovative teaching-learning practices

1. Theme-based teaching learning activities
  2. Focused discussion during journal club inculcates culture in the areas of research and publication
  3. Faculty Lecture during 4th week: Helps in bridging the gap between what is presented during the month and what is not about a particular topic. Also it reinforces learning.
4. Question based Assessment of all the PG students on the topic presented in seminar to assess the understanding of concepts

Shalini



Principal and Dean

M.S. Ramaiah Medical College and Hospital

M.S. Ramaiah University of Applied Sciences  
Bangalore-560054

Meha Y Rao  
Dean - Academics  
M.S. Ramaiah University of Applied Sciences  
Bangalore-560054



**14 . ASSESSMENT****FORMATIVE ASSESSMENT:**

, i.e., assessment during the training would include: Formative assessment should be continual and should assess medical knowledge, patient care, procedural & academic skills, interpersonal skills, professionalism, self-directed learning and ability to practice in the system.

**General Principles**

Internal Assessment should be frequent, cover all domains of learning and used to provide feedback to advance learning; it should also cover professionalism and communication skills. The Internal Assessment should be conducted in theory and clinical examination at the end of every term.

Quarterly assessment during the MS training should be based on following educational activities:

Journal based / recent advances learning

Patient based /Laboratory or Skill based learning

Self-directed learning and teaching

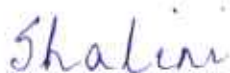
Departmental and interdepartmental learning activity

External and Outreach Activities / CMEs

The student to be assessed periodically as per categories listed in postgraduate student appraisal form (Annexure IX).



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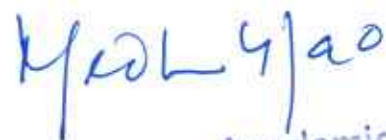


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**SUMMATIVE ASSESSMENT:****Scheme of Examination:****A. Theory (Written Paper)****400 marks**

There shall be four question papers, each of three hours' duration. Each paper shall consist of 10 short essay questions each carrying 10 marks. Total marks for each paper will be 100. Questions on recent advances may be asked in any or all the papers. Details of distribution of topics for each paper will be as follows.

| Name of the course  | Course Code | Topics   | Marks |
|---|-------------|--|-------|
| Basic Sciences related to Otorhinolaryngology                                   | MSC517A     | Applied Anatomy, Physiology, Pathology of otology, rhinology, laryngology, General Principles of Otorhinolaryngology | 100   |
| Principles and Practices of Otorhinolaryngology, Audiology and Speech Pathology | MSC518A     | Principles and Practice of Otorhinolaryngology   | 100   |
| Recent advances in Otorhinolaryngology and Head Neck surgery                    | MSC519A     | Recent Developments in Otorhinolaryngology, Research methodologies in Otorhinolaryngology, Cancer Control Programmes | 100   |
| General Surgical Principles and Head-Neck Surgery                               | MSC520A     | Principles and Practice of Surgical Otorhinolaryngology and Head Neck surgery  | 100   |

Shalini

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M.S. Ramiah Medical College and Hospital

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Bangalore-560054



Yeshu G Rao  
Dean - Academics

M.S. Ramiah University of Applied Sciences

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**B. Clinical: 200marks**

One long case of 80 marks and three short cases of 40 marks each.

**C. VivaVoice: 100 marks****1) Viva-Voce Examination:(80Marks)**

All examiners will conduct viva-voce conjointly on candidate's comprehension, analytical approach, expression and interpretation of data. It includes all components of course contents. In addition, candidates may be also be given case reports, charts, gross specimens, pathology slide, Instruments, Audiology, X-rays, CT scan, MRI images for interpretation. It includes discussion on dissertation also.

**2) Pedagogy Exercise:(20Marks)**

A topic be given to each candidate in the beginning of clinical examination. He/she is asked to make a presentation on the topic for 8-10 minutes

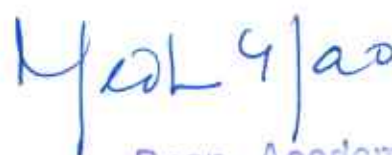
**D. Total Marks Distribution:**

| Maximum marks for<br>M.D degree course | Theory | Practical | Viva | Grand<br>Total |
|--|--------|-----------|------|----------------|
|  | 400    | 200       | 100  | 700            |

  
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**Annexures**

1. Evaluation of Journal Review Presentations
2. Evaluation of Pedagogy
3. Evaluation of Seminar Presentations
4. Evaluation of Clinical Case Presentations
5. Check list for evaluation of clinical work in ward / OPD
6. Dissertation Presentation
7. Continuous Evaluation of Dissertation work by Guide / Co-Guide
8. Log book
9. Post Graduate student Appraisal Form

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M.S. Ramiah Medical College and Hospital  
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## Annexure – 1

## CHECK-LIST FOR EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Date:

Name of the Student:

Name of the Faculty/Observer:

| Sl. No. | Items for observation during presentation                                   | Poor<br>0 | Below<br>Average<br>1 | Average<br>2 | Good<br>3 | Very<br>Good<br>4 |
|---------|---|-----------|-----------------------|--------------|-----------|-------------------|
| 1.      | Article chosen was  |           |                       |              |           |                   |
| 2.      | Extent of understanding of scope & objectives of the paper by the candidate |           |                       |              |           |                   |
| 3.      | Whether cross references have been consulted                                |           |                       |              |           |                   |
| 4.      | Whether other relevant publications consulted                               |           |                       |              |           |                   |
| 5.      | Ability to respond to questions on the paper / subject                      |           |                       |              |           |                   |
| 6.      | Audio-Visual aids used  |           |                       |              |           |                   |
| 7.      | Ability to defend the paper   |           |                       |              |           |                   |
| 8.      | Clarity of presentation   |           |                       |              |           |                   |
| 9.      | Any other observation   |           |                       |              |           |                   |
|         | <b>Total Score</b>  |           |                       |              |           |                   |

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## Annexure – 2

## EVALUATION OF PEDAGOGY

Name of the candidate:

Date:

Register No.:

Centre:

Topic:

Max. Marks: 20

| Skills                         |  | Marks     |
|--------------------------------|--|-----------|
| Marks Set induction (1.5marks) | <ul style="list-style-type: none"> <li>Aroused interest in the beginning by relating to previous learning, throwing a new idea, questioning, etc.</li> <li>Specified the objectives of presentation</li> </ul>             |           |
| Planning (5 marks)             | <ul style="list-style-type: none"> <li>Organized material in a logical sequence</li> <li>Used relevant content matter</li> </ul>   |           |
| Presentation(5 marks)          | <ul style="list-style-type: none"> <li>Changed the pace of presentation by shifting emphasis, joke, etc</li> <li>Used specific example to illustrate main Ideas</li> <li>Used non-verbal cues, eye contact, etc</li> </ul> |           |
| Pupil participation (5 marks)  | <ul style="list-style-type: none"> <li>Allowed questions from students</li> <li>Asked question</li> <li>Solicited/Raised questions</li> <li>Rewarded pupil effort</li> </ul>   |           |
| Use of AV aids (2.5 marks)     | <ul style="list-style-type: none"> <li>Used proper AV aids</li> <li>used the aid(s) effectively</li> </ul>   |           |
| Closure (1 mark)               | <ul style="list-style-type: none"> <li>Summarized most important points at the end of the session Overall marks</li> </ul>   |           |
| ____(out of 20)                |  | Signature |

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## Annexure – 3

## CHECK-LIST FOR EVALUATION OF SEMINAR PRESENTATIONS

Date:

Name of the Student:

Name of the Faculty/Observer:

| Sl. No. | Items for observation during presentation     | Poor<br>0 | Below<br>Average<br>1 | Average<br>2 | Good<br>3 | Very Good<br>4 |
|---------|---|-----------|-----------------------|--------------|-----------|----------------|
| 1.      | Whether other relevant publications consulted |           |                       |              |           |                |
| 2.      | Whether cross references have been consulted  |           |                       |              |           |                |
| 3.      | Completeness of Preparation                   |           |                       |              |           |                |
| 4.      | Clarity of Presentation                       |           |                       |              |           |                |
| 5.      | Understanding of subject                      |           |                       |              |           |                |
| 6.      | Ability to answer questions                   |           |                       |              |           |                |
| 7.      | Time scheduling                               |           |                       |              |           |                |
| 8.      | Appropriate use of Audio-Visual aids          |           |                       |              |           |                |
| 9.      | Overall Performance                           |           |                       |              |           |                |
| 10.     | Any other observation                         |           |                       |              |           |                |
|         | <b>Total Score</b>                            |           |                       |              |           |                |



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M.S. Ramaiah Medical College and Hospital

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Dean - Academics  
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## ANNEXURE - 4

CHECK LIST FOR EVALUATION FORM FOR *CLINICAL PRESENTATION*

Name of the Student:

Date:

Name of the Faculty:

| Sl. No. | Points to be considered   | Poor<br>0 | Below<br>Average<br>1 | Average<br>2 | Above<br>Average<br>3 | Very Good<br>4 |
|---------|---|-----------|-----------------------|--------------|-----------------------|----------------|
| 1.      | Completeness of history   |           |                       |              |                       |                |
| 2.      | Whether all relevant points elicited                              |           |                       |              |                       |                |
| 3.      | Clarity of Presentation   |           |                       |              |                       |                |
| 4.      | Logical order   |           |                       |              |                       |                |
| 5.      | Mentioned all positive and negative points of importance          |           |                       |              |                       |                |
| 6.      | Accuracy of general physical examination                          |           |                       |              |                       |                |
| 7.      | Whether all physical signs elicited correctly                     |           |                       |              |                       |                |
| 8.      | Whether any major signs missed or misinterpreted                  |           |                       |              |                       |                |
| 9.      | Diagnosis: Whether it follows logically from history and findings |           |                       |              |                       |                |
| 10.     | Investigations required Complete list                             |           |                       |              |                       |                |
|         | ▪ Relevant order  |           |                       |              |                       |                |
|         | ▪ Interpretation of investigations                                |           |                       |              |                       |                |
| 11.     | Ability to react to questioning                                   |           |                       |              |                       |                |
|         | Whether it follows logically from history and findings            |           |                       |              |                       |                |
| 12.     | Ability to defend diagnosis                                       |           |                       |              |                       |                |
| 13.     | Ability to justify differential diagnosis                         |           |                       |              |                       |                |
| 14.     | Others  |           |                       |              |                       |                |
|         | <b>Grand Total</b>  |           |                       |              |                       |                |

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Dean - Academics

M.S. Ramiah University of Applied Sciences  
Bangalore-560054

## ANNEXURE 5

## CHECK LIST FOR EVALUATION OF CLINICAL WORK IN WARD / OPD

(To be completed once a month by respective Unit Heads including posting in other departments)

Name of the Student:

Date:

Name of the Unit Head

| Sl. No. | Points to be considered:  | Poor<br>0 | Below Average<br>1 | Average<br>2 | Good<br>3 | Very Good<br>4 |
|---------|---|-----------|--------------------|--------------|-----------|----------------|
| 1.      | Regularity of attendance  |           |                    |              |           |                |
| 2.      | Punctuality   |           |                    |              |           |                |
| 3.      | Interaction with colleagues and supportive staff                                    |           |                    |              |           |                |
| 4.      | Maintenance of case records   |           |                    |              |           |                |
| 5.      | Presentation of cases during rounds   |           |                    |              |           |                |
| 6.      | Investigations work up  |           |                    |              |           |                |
| 7.      | Bedside manners   |           |                    |              |           |                |
| 8.      | Rapport with patients   |           |                    |              |           |                |
| 9.      | Counseling patient's relatives for blood donation or Postmortem and Case follow up. |           |                    |              |           |                |
| 10.     | Overall quality of Ward work  |           |                    |              |           |                |
|         | <b>Total Score</b>  |           |                    |              |           |                |



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Dean - Academics  
M.S. Ramiah University of Applied Sciences  
Bangalore-560054



**Annexure – 6**  
**CHECK LIST FOR DISSERTATION PRESENTATION**

Name:

Faculty/Observer:

Date:

| Sl. No. | Points to be considered               | Poor<br>0 | Below<br>Average<br>1 | Average<br>2 | Good<br>3 | Very Good<br>4 |
|---------|---------------------------------------|-----------|-----------------------|--------------|-----------|----------------|
| 1.      | Interest shown in selecting a topic   |           |                       |              |           |                |
| 2.      | Appropriate review of literature      |           |                       |              |           |                |
| 3.      | Discussion with guide & other faculty |           |                       |              |           |                |
| 4.      | Quality of protocol                   |           |                       |              |           |                |
| 5.      | Preparation of proforma               |           |                       |              |           |                |

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M.S. Ramaiah Medical College  
M.S. Ramaiah University of Applied Sciences  
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Yeshu Rao

Dean - Academics  
M.S. Ramaiah University of Applied Sciences  
Bangalore-560054

## Annexure – 7

## CONTINUOUS EVALUATION OF DISSERTATION WORK BY GUIDE / CO-GUIDE

Name:

Faculty/Observer:

Date:

| Sl. No. | Items for observation during presentation | Poor<br>0 | Below<br>Average<br>1 | Average<br>2 | Good<br>3 | Very<br>Good<br>4 |
|---------|---|-----------|-----------------------|--------------|-----------|-------------------|
| 1.      | Periodic consultation with guide/co-guide |           |                       |              |           |                   |
| 2.      | Regular collection of case material       |           |                       |              |           |                   |
| 3.      | Depth of analysis / discussion            |           |                       |              |           |                   |
| 4.      | Departmental presentation of findings     |           |                       |              |           |                   |
| 5.      | Quality of final output                   |           |                       |              |           |                   |
| 6.      | Others                                    |           |                       |              |           |                   |
|         | <b>Total Score</b>                        |           |                       |              |           |                   |



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Principal and Dean

M.S. Ramiah Medical College and Hospital  
M.S. Ramiah University of Applied Sciences  
Bangalore - 560054

Meetha Gao

Dean - Academics

M.S. Ramiah University of Applied Sciences  
Bangalore-560064

## Annexure 8

## LOG BOOK

Table 1: Academic activities attended by the student

Name:

Admission Year:

College:

[illegible]

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**Table 2: Academic presentation made by the Student**

Admission Year:

[illegible]

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Annexure – 9  
POSTGRADUATE STUDENTS APPRAISAL FORM  
PRE-CLINICAL DISCIPLINES

Date:

Name of the Department:

Name of the Student:

Period of Training: From ..... To .....

0: Poor, 1: Average, 2: Good, 3: Very good, 4: Exceptional

| Sl. No. | Particulars   | Poor<br>0 | Below<br>Average<br>1 | Average<br>2 | Good<br>3 | VeryGood<br>4 |
|---------|---|-----------|-----------------------|--------------|-----------|---------------|
| 1.      | Ability to teach UG students and Juniors                |           |                       |              |           |               |
| 2.      | Knowledge of Subject in PG course                       |           |                       |              |           |               |
| 3.      | Performance in JournalClub                              |           |                       |              |           |               |
| 4.      | Performance in Seminar                                  |           |                       |              |           |               |
| 5.      | Punctuality at work                                     |           |                       |              |           |               |
| 6.      | Ability to work in a team                               |           |                       |              |           |               |
| 7.      | Attitude towards colleagues/Faculty                     |           |                       |              |           |               |
| 8.      | Ability to communicate with students                    |           |                       |              |           |               |
| 9.      | Departmental and interdepartmental activity initiatives |           |                       |              |           |               |
| 10.     | Thesis /Research work                                   |           |                       |              |           |               |
| 11.     | Logbook maintenance                                     |           |                       |              |           |               |
| 12.     | IA eligibility  | Yes/No    |                       |              |           |               |
| 13.     | Publications  | Yes/No    |                       |              |           |               |
| 14.     | Paper/Poster presentations                              | Yes/No    |                       |              |           |               |
| 15.     | Remarks   |           |                       |              |           |               |

**\*REMARKS:** Any significant positive or negative attributes of a postgraduate student to be mentioned. For score less than 3 in any category, remediation must be suggested. Individual feedback to postgraduate student is strongly recommended.

SIGNATURE OF ASSESSEE

Shalini

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M.S. Ramaiah Medical College and Hospital

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Meetha Rao  
Dean - Academics  
M.S. Ramaiah University of Applied Sciences  
Bangalore-560054

## Course Specifications

MS ENT 2022 onwards

Course Code: MSC517A



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Yash Rao

Dean - Academics  
M.S. Ramaiah University of Applied Sciences  
Bangalore-560054



**COURSE SPECIFICATIONS**

|              |   |
|--------------|---|
| Course Title | Basic Sciences related to Otorhinolaryngology |
| Course Code  | MSC517A                                       |
| Department   | Otorhinolaryngology                           |
| Faculty      | Ramaiah Medical College                       |

**Course summary:**

This course is designed in such a way that the student will master the basics of Applied Anatomy, Physiology, Pathology of otology, rhinology, laryngology, General Principles of Otorhinolaryngology.

**Course Outcomes:**

**CO 1-** Mechanism of perception of smell and taste, mechanism of breathing and voice production, lacrimation, deglutition and salivation. Functional tests of the nose and Paranasal sinuses, mechanism of cough and sneezing. (C)

**CO 2** Physics of sound, theories of hearing, mechanism of perception of sound and speech production, physiology of equilibrium and cerebral function.

Physiology of brain in connection with hearing, speech, smell and phonation. Audiologic tests like audiometry, impedance, evoked potentials, OAE, Speech audiometry. (C,P)

**CO 3** Physiology of larynx, tracheobronchial tree and Oesophagus - Histology of mucous membranes, internal ear and other associated organs and structures, nose, PNS, Nasopharynx, Larynx, Tracheo-Bronchial tree, Lymphoepithelial system. Mechanism of immune system/immunology and genetics. (C)

**CO 4** Anatomy-Embryology of ear, nose and throat including palate,, tongue, salivary gland, larynx, Oesophagus, trachea and lungs, Head and Neck and skull base etc. (C)

**CO 5** Neck spaces including connective tissue barriers of larynx. (C)

**CO 6** Applied anatomy of the skull bones, accessory sinuses, external, middle and inner ears, nose, PNS, nasopharynx, meninges, brain, pharynx, larynx, trachea and bronchi, lungs, pleurae, oesophagus and the mediastinum. (C)

**CO 7** Anatomy of all cranial nerves with their functions. . (C)

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M.S. Ramaiah University of Applied Sciences



*Mesh 47ao*

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Bangalore-560054

**Course Content:**

Basic Sciences related to Otorhinolaryngology.

It includes-

1. Physiology- Mechanism of perception of smell and taste, mechanism of breathing and voice production, lacrimation, deglutition, and salivation.
2. Theories of hearing, mechanism of perception of sound and speech production, physiology of equilibrium and cerebral function, Audiologic tests like audiometry, impedance, evoked potentials, OAE, and Speech audiometry.
3. Physiology of larynx, tracheobronchial tree and esophagus, Mechanism of immune system/immunology and genetics.
4. Embryogenesis of ear, nose, and throat Head and Neck and skull base.
5. Applied anatomy of the skull bones, accessory sinuses, external, middle and inner ears, nose, PNS, nasopharynx, meninges, brain, pharynx, larynx, trachea and bronchi, lungs, pleurae, oesophagus and the mediastinum.



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M.S. Ramaiah University of Applied Sciences

H. L. Rao

Dean - Academics

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Course Mapping (CO-PO-PSO Mapping)

| Course Code and name  | Course Outcomes | Program Outcomes |      |      |      | Program Specific Outcomes |       |       |       |       |      |       |       |  |  |
|---|-----------------|------------------|------|------|------|---------------------------|-------|-------|-------|-------|------|-------|-------|--|--|
|   |                 | PO1              | PO 2 | PO 3 | PO 4 | PSO 1                     | PSO 2 | PSO 3 | PSO 4 | PSO 5 | PSO6 | PSO 7 | PSO 8 |  |  |
| MSC517A<br><br>Basic Sciences related to Otorhinolaryngology                  | CO 1            | 3                | 1    | 1    | 1    | 2                         | 1     | 1     | 1     | 2     | 1    | 1     | 1     |  |  |
|   | CO 2            | 3                | 1    | 1    | 1    | 2                         | 1     | 2     |       |       | 1    |       |       |  |  |
|   | CO 3            | 3                |      | 2    | 2    | 1                         |       | 1     |       | 2     | 1    |       |       |  |  |
|   | CO 4            | 2                |      | 1    |      | 1                         | 1     |       |       | 1     | 1    |       |       |  |  |
|   | CO 5            | 2                |      | 2    | 1    | 3                         | 1     | 1     | 2     |       |      |       | 1     |  |  |
|   | CO 6            | 3                | 1    | 2    | 1    | 2                         | 2     | 2     | 1     | 2     | 2    |       | 1     |  |  |
|   | CO 7            | 2                | 1    | 1    | 1    | 2                         | 2     | 1     | 1     | 2     | 1    |       |       |  |  |
| 3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution |                 |                  |      |      |      |                           |       |       |       |       |      |       |       |  |  |

Shalin

Principal and Dean

M.S. Ramaiah Medical College and Hospital  
M.S. Ramaiah University of Applied Sciences  
Bangalore-560054



H. L. Gao

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M.S. Ramaiah University of Applied Sciences  
Bangalore-560054



## Course Specifications

**MS ENT 2022 onwards**

**Course Code: MSC518A**



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M.S. Ramaiah Medical College and Hospital  
M.S. Ramaiah University of Applied Sciences

*Y. L. Rao*  
Dean - Academics  
M.S. Ramaiah University of Applied Sciences  
Bangalore-560054

Course Specifications

|              |   |
|--------------|---|
| Course Title | Principles and Practices of Otorhinolaryngology |
| Course Code  | MSC518A   |
| Department   | Otorhinolaryngology                             |
| Faculty      | Ramaiah Medical College                         |

Course Summary:

This course is designed in such a way that the student will master the Principles and Practice of Otorhinolaryngology.

Course Outcomes:

**CO 1** Clinical Methodology as applied to Otorhinolaryngology - Head and neck diseases in adult and children, diagnosis and surgical treatment of diseases of nose, throat and ear in adult and children. Prevention and treatment, infectious diseases of Otolaryngology and Head Neck region. Circulatory and nervous disturbances of the nose, throat and ear and their effects on other organs of the body. Deformities, injuries, sinus infections, polyps and the tumors of the nose and Paranasal sinuses. . (A,C,P)

**CO 2** Examination of the ear, deafness and allied diseases, complications of diseases of the ear. Injuries, tumors, nervous and circulatory neurological disturbances of the ear. Diagnosis and treatment of tinnitus and vertigo. Diagnosis and rehabilitation of the speech and hearing handicapped including, dispensing of hearing aid other vibrotactile aids.

- i. Surgical Anatomy and pathology of Otolaryngology and Head Neck region.
- ii. Basic knowledge of Anesthesia as related to ENT.
- iii. Examination of diseases of children (Pediatric Otorhinolaryngology) in connection with throat and larynx. Neurological and vascular disturbances. Congenital and neonatal stridor.
- iv. Pathology of various diseases of the larynx and throat, tracheo-bronchial tree and their causative organisms.
- v. Indications and various techniques of direct laryngoscopy, nasal endoscopy. Bronchoscopy and oesophagoscopy, including microlaryngoscopic procedures.
- vi. Reading of radiograms, scans, audiograms, nystagmograms and tympanograms in connection with ENT diseases/disorders.
- vii. Special apparatus for the diagnosis and treatment of the diseases of ear, nose and throat including audiometry, tympanometry, BERA, Speech analyzer etc. . (A,C,P)

Shalini

Principal and Dean

M.S. Ramaiah Medical College and Hospital  
M.S. Ramaiah University of Applied Sciences  
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**Course Content:**

Principles and Practices of Otorhinolaryngology, Audiology and Speech Pathology  
It includes-

1. Surgical pathology of Otolaryngology and Head Neck region.
2. Basic knowledge of anaesthesia as related to ENT.
3. Examination of diseases of children (Paediatric ORL) in connection with throat and larynx. Neurological and vascular disturbances. Congenital and neonatal stridor.
4. Pathology of various diseases of the larynx and throat, tracheo bronchial tree and their causative organisms.
5. Indications and various techniques of direct laryngoscopy, nasal endoscopy. Bronchoscopy and oesophagoscopy, including microlaryngoscopic procedures.
6. Reading of radiograms, scans, audiograms, nystagmograms and tympanograms in connection with ENT diseases/disorders.
7. Special apparatus for the diagnosis and treatment of the diseases of ear, nose and throat including audiometer, BERA, Speech analyser etc.

  
Registrar  
M.S. Ramalah University of Applied Sciences  
Bangalore - 560 054

  
Shalini

Principal and Dean  
M.S. Ramalah Medical College and Hospital  
M.S. Ramalah University of Applied Sciences

  
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Course Mapping (CO-PO-PSO Mapping)

| Course Code and name  | Course Outcomes | Program Outcomes |      |      |      | Program Specific Outcomes |       |       |       |       |       |       |       |
|---|-----------------|------------------|------|------|------|---------------------------|-------|-------|-------|-------|-------|-------|-------|
|   |                 | PO 1             | PO 2 | PO 3 | PO 4 | PSO 1                     | PSO 2 | PSO 3 | PSO 4 | PSO 5 | PSO 6 | PSO 7 | PSO 8 |
| MSC518A Principles and Practices of Otorhinolaryngology                       | CO 1            | 3                | 2    | 2    | 2    | 2                         | 2     | 2     | 2     | 2     | 1     | 1     | 1     |
|   | CO 2            | 2                | 2    | 3    | 2    | 2                         | 3     | 2     | 2     | 1     | 1     | 1     | 1     |
| 3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution |                 |                  |      |      |      |                           |       |       |       |       |       |       |       |

Shalini

Principal and Dean

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M.S. Ramiah University of Applied Sciences  
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## Course Specifications

**MS ENT 2022 onwards**

**Course Code: MSC519A**



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Bangalore-560054

Course Specifications

|              |  |
|--------------|--|
| Course Title | Recent advances in Otorhinolaryngology and Head Neck surgery |
| Course Code  | MSC519A  |
| Department   | Otorhinolaryngology  |
| Faculty      | Ramaiah Medical College                                      |

Course Summary:

This course is designed in such a way that the student will master the Recent Developments in Otorhinolaryngology, Research methodologies in Otorhinolaryngology, and Cancer Control Programmes.

Course Outcomes:

- CO 1 Recent developments in the diagnosis, pathogenesis and treatment of the ENT diseases . (C,P)
- CO 2 The knowledge of the frontiers of the Oto-laryngology and lateral skull base surgery . (C)
- CO 3 Rhinoplasty, endoscopic sinus surgery, and anterior skull base surgery . (C,P)
- CO 4 Knowledge of LASERS and fibre optics . (C)
- CO 5 Other methods of managing Hearing loss . (C,P)
- CO 6 Implantable hearing aids and cochlear implants. . (C,P)
- CO 7 Phonosurgery . (C,P)
- CO 8 Etiology and Managements of sleep Apnoea /snoring. (C,P)
- CO 9 Hypophysectomy and optic nerve decompressions. (C,P)
- CO 10 Immunotherapy and modalities of the gene therapy. (C,P)
- CO 11 Newer techniques for Radiotherapy including, use of gamma knife for treatment of Intracranial tumors and other malignancy. (C,P)
- CO 12 Chemotherapy of Malignancies in head and neck. . (C)

Course Content:

Recent advances in Otorhinolaryngology and Head Neck surgery

It includes-

1. Recent developments in the diagnosis, pathogenesis, and treatment of ENT diseases.
2. The knowledge of the frontiers of otolaryngology and lateral skull base surgery, Rhinoplasty, endoscopic sinus surgery, and anterior cranial fossa surgery.
3. Knowledge of LASERS and fiber optics.
4. Other methods of managing Hearing loss, Implantable hearing aids cochlear implants.
5. Etiology and Managements of sleep apnoea/snoring and Phonosurgery.
6. Hypophysectomy and optic nerve decompressions.
7. Chemotherapy of cancer and Immunotherapy and modalities of the gene therapy, Newer techniques for Radiotherapy including, the use of gamma knife for treatment of Intracranial tumors and other malignancy.

Shalini

Principal and Dean  
M.S. Ramaiah Medical College and Hospital  
M.S. Ramaiah University of Applied Sciences  
Bangalore-560054



H. L. Rao

Dean - Academics

M.S. Ramaiah University of Applied Sciences  
Bangalore-560054



Course Mapping (CO-PO-PSO Mapping)

| Course Code and name  | Course Outcomes | Program Outcomes |      |      |      | Program Specific Outcomes |       |       |       |       |       |       |       |
|---|-----------------|------------------|------|------|------|---------------------------|-------|-------|-------|-------|-------|-------|-------|
|   |                 | PO 1             | PO 2 | PO 3 | PO 4 | PSO 1                     | PSO 2 | PSO 3 | PSO 4 | PSO 5 | PSO 6 | PSO 7 | PSO 8 |
| MSC519A<br>Recent advances in Otorhinolaryngology and Head Neck surgery       | CO 1            | 2                |      | 2    | 1    | 2                         | 2     | 2     | 1     | 2     | 1     | 1     |       |
|   | CO 2            | 1                |      | 2    | 1    | 1                         | 1     | 1     |       | 1     | 1     | 1     |       |
|   | CO 3            | 3                | 2    | 2    | 2    | 3                         | 2     | 2     | 2     | 2     | 1     | 1     |       |
|   | CO 4            | 2                | 1    | 2    | 2    | 2                         | 2     | 1     |       | 1     | 1     | 1     |       |
|   | CO 5            | 2                | 1    | 1    | 1    | 1                         | 1     | 2     | 1     | 1     | 1     |       |       |
|   | CO 6            | 2                | 1    | 1    | 2    | 2                         | 1     |       | 1     | 2     | 2     | 1     | 1     |
|   | CO 7            | 1                |      | 2    | 2    | 2                         |       | 1     | 1     | 2     | 2     | 1     |       |
|   | CO 8            | 3                | 1    | 1    | 2    | 3                         | 2     | 3     | 2     | 2     | 2     | 1     | 1     |
|   | CO 9            |                  |      | 1    | 1    | 1                         | 1     | 1     | 1     | 1     | 2     | 1     |       |
|   | CO 10           |                  |      | 1    | 1    |                           | 1     | 1     | 1     | 2     | 2     | 1     | 1     |
|   | CO 11           | 2                |      | 1    |      | 2                         | 2     | 1     | 1     | 2     | 2     | 1     | 1     |
|   | CO 12           | 2                |      | 1    |      | 2                         | 2     | 1     | 1     | 2     | 2     | 1     | 1     |
| 3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution |                 |                  |      |      |      |                           |       |       |       |       |       |       |       |



Shalini  
Principal and Dean  
M.S. Ramaiah Medical College and Hospital  
M.S. Ramaiah University of Applied Sciences  
Bangalore - 560054

Medh Rao  
Dean - Academics  
M.S. Ramaiah University of Applied Sciences  
Bangalore - 560054

## Course Specifications

**MS ENT 2022 onwards**

**Course Code: MSC520A**

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Principal and Dean  
M.S. Ramiah Medical College and Hospital  
M.S. Ramiah University of Applied Sciences  
Bangalore-560054



*H. L. Rao*

Dean - Academics  
M.S. Ramiah University of Applied Sciences  
Bangalore-560054

Course Specifications

|              |   |
|--------------|---|
| Course Title | General Surgical Principles and Head-Neck Surgery |
| Course Code  | MSC520A   |
| Department   | Otorhinolaryngology                               |
| Faculty      | Ramaiah Medical College                           |

Course Summary:

This course is designed in such a way that the student will master the Principles and Practice of Surgical Otorhinolaryngology and Head Neck surgery

Course Outcome:

- CO 1** General Surgery, Head and Neck oncology, and Medicine as applicable to the ENT disorders/diseases. Surgery of congenital deformities of nose, ear (Pinna) and trachea/ Oesophagus etc. . (C.P)
- CO 2** Radiology, Imaging – computed tomography and magnetic resonance imaging, (MRI) and intervention radiology and angiography as related to ENT . (C)
- CO 3** General Pathologic aspects such as wound healing and also pathology and Pathogenesis of ENT diseases, Pharmacology, molecular biology, genetics, cytology, hematology, and immunology as pertinent to otolaryngology . (A,C.P)
- CO 4** General Principles of facio-maxillary trauma and neck injury including laryngo tracheal injuries. . (C.P)
- CO 5** Plastic Surgery as applicable to Otolaryngology. (C.P)

Course Content:

General Surgical Principles and Head-Neck Surgery

It includes –

General Surgery, Head and Neck oncology, and Medicine as applicable to ENT disorders/diseases. Surgery of congenital deformities of nose, ear (Pinna) and trachea/oesophagus etc.

Radiology, Imaging – computed tomography and magnetic resonance imaging, (MRI) and intervention radiology and angiography as related to ENT.

General Pathologic aspects such as wound healing and also pathology and Pathogenesis of ENT diseases, Pharmacology, molecular biology, genetics, cytology, haematology, and immunology as applicable to otolaryngology.

General Principles of faciomaxillary traumatology and neck injury.

Plastic Surgery as applicable to Otolaryngology



*Shalini*  
Principal and Dean  
M.S. Ramaiah Medical College and Hospital  
M.S. Ramaiah University of Applied Sciences  
Bangalore-560054

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Dean - Academics  
M.S. Ramaiah University of Applied Sciences  
Bangalore-560054



Course Mapping (CO-PO-PSO Mapping)

| Course Code and name  | Course Outcomes | Program Outcomes |      |      |      | Program Specific Outcomes |       |       |       |       |       |       |       |
|---|-----------------|------------------|------|------|------|---------------------------|-------|-------|-------|-------|-------|-------|-------|
|   |                 | PO 1             | PO 2 | PO 3 | PO 4 | PSO 1                     | PSO 2 | PSO 3 | PSO 4 | PSO 5 | PSO 6 | PSO 7 | PSO 8 |
| MSC520A<br>General Surgical Principles and Head-Neck Surgery                  | CO 1            | 3                | 2    | 2    | 2    | 3                         | 2     | 2     | 2     | 2     | 2     | 1     | 1     |
|   | CO 2            | 2                | 1    | 1    | 1    | 2                         | 2     | 1     | 1     | 2     | 2     | 1     |       |
|   | CO 3            | 2                |      | 2    | 1    | 1                         | 2     | 2     | 1     | 2     | 2     | 2     | 1     |
|   | CO 4            | 3                | 1    | 2    | 2    | 3                         | 2     | 2     | 2     | 2     | 2     | 2     | 1     |
|   | CO 5            | 2                | 1    | 2    | 1    | 1                         | 1     | 1     | 2     | 2     | 2     | 2     | 2     |
| 3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution |                 |                  |      |      |      |                           |       |       |       |       |       |       |       |



Shalini  
Principal and Dean  
M.S. Ramaiah Medical College and Hospital  
M.S. Ramaiah University of Applied Sciences  
Bangalore-560054

H. K. Rao

Dean - Academics  
M.S. Ramaiah University of Applied Sciences  
Bangalore-560054

## Course Specifications

**MS ENT 2022 onwards**

**Course Code:MSP505A**



*Shaline*

Principal and Dean  
M.S. Ramalah Medical College and Hospitals  
M.S. Ramalah University of Applied Sciences  
Bangalore-560054

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Dean - Academics  
M.S. Ramalah University of Applied Sciences  
Bangalore-560054

Course Specifications

|              |                         |
|--------------|-------------------------|
| Course Title | Thesis- ENT             |
| Course Code  | MSP505A                 |
| Department   | Otorhinolaryngology     |
| Faculty      | Ramaiah Medical College |

Course Summary:

The course is designed in such a way that the student will master the science of research in terms of designing, conducting, and interpreting the results.

Course Outcome:

- CO 1** The student should be introduced to basic research methodology so that he/she can independently perform fundamental and applied research and he/she should independently write the thesis in accordance with the prescribed norms as per international standards (C,P )
- CO 2** The student should be able to demonstrate integrity, accountability, respect, compassion and dedicated patient care and commitment to excellence, continuous professional development and ethical principles relating to research and publication as applicable to all the specific courses. . (A, C.P)

Course details:

Every candidate pursuing MD Medicine degree course is required to carry out work on a selected research project under the guidance of a recognised post graduate teacher. The results of such a work shall be submitted in the form of a dissertation. The dissertation is aimed to train a post graduate student in research methods and techniques. It includes identification of a problem, formulation of a hypothesis, search and review of literature, getting acquainted with recent advances, designing of a research study, collection of data, critical analysis, comparison of results and drawing conclusions.

Every candidate shall submit to the Registrar (Academic) of the University in the prescribed proforma, a synopsis containing particulars of proposed dissertation work within six months from the date of commencement of the course on or before the dates notified by the University. The synopsis shall be sent through the proper channel.

Such synopsis will be reviewed and the dissertation topic will be registered by the University. No change in the dissertation topic or guide shall be made without prior approval of the University.

The dissertation should be written under the following headings:

1. Introduction
2. Aims or Objectives of study
3. Review of Literature
4. Material and Methods
5. Results
6. Discussion
7. Conclusion
8. Summary
9. References (Vancouver style)
10. Tables
11. Annexures



*Shalini*  
Principal and Dean  
M.S. Ramaiah Medical College and Hospital  
M.S. Ramaiah University of Applied Sciences  
Bangalore-560054

*H. K. Rao*

Dean - Academics  
M.S. Ramaiah University of Applied Sciences  
Bangalore-560054



Course Mapping (CO-PO-PSO Mapping)

| Course Code and name  | Course Outcomes | Program Outcomes |      |      |      | Program Specific Outcomes |       |       |       |       |       |       |       |
|---|-----------------|------------------|------|------|------|---------------------------|-------|-------|-------|-------|-------|-------|-------|
|   |                 | PO 1             | PO 2 | PO 3 | PO 4 | PSO 1                     | PSO 2 | PSO 3 | PSO 4 | PSO 5 | PSO 6 | PSO 7 | PSO 8 |
| MSP505A<br>Thesis- ENT  | CO 1            | 3                | 3    | 3    | 1    | 3                         | 3     | 2     | 2     | 2     | 2     | 1     | 1     |
|   | CO 2            | 2                | 3    | 2    | 1    | NA                        | 2     | 2     | 3     | 3     | 1     | 2     | 3     |
| 3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution |                 |                  |      |      |      |                           |       |       |       |       |       |       |       |



Shalini

Principal and Dean

M.S. Ramaiah Medical College and Hospital  
M.S. Ramaiah University of Applied Sciences

Mesh 9/ao  
Dean - Academics  
M.S. Ramaiah University of Applied Sciences  
Bangalore-560054

STUDY MATERIALS/RESOURCES

| SL. NO. | NAME OF THE TEXTBOOK   | AUTHORS   |
|---------|--|---|
| 1       | Scott Brown's Otorhinolaryngology & Head And Neck Surgery (3vols) VIII Edition | Michael Gleeson & Others  |
| 2       | Cummings Otolaryngology, Head And Neck Surgery 5 Volumes                       | Charles W Cummings, Paul Wf Lint, Lee A Harker, Bruce Haugh Ley, Mark A Richardson, K. Thomas |
| 3       | Rob And Smith Operative Surgery Ear, Nose And Throat, Head & Neck              | Hugh, David Carter, Rcg Rassel  |
| 4       | Paparella Otolaryngology 4 Vol Set   | Paparella, Shumrick, Allan, Meyerhoff   |
| 5       | Logan Turner's Diseases Of The Nose, Throat And Ear                            | A.G.D Maran   |
| 6       | An Atlas Of Head And Neck Surgery  | Lore  |
| 7       | Glasscock-Shambaugh Surgery Of The Ear   | Michael Glasscock Iii, Aina Julianna Gulya  |
| 8       | Ballenger Snow Jr. Otorhinolaryngology, Head And Neck Surgery                  | John Jacob Ballenger James B Snow   |
| 9       | Head And Neck Oncology   | Jatin P Shah<br>Snehal G Patil  |
| 10      | Surgery Of The Cancer Of The Larynx  | Carl E Silver   |
| 11      | Head And Neck Surgery  | John C Watkinson Mark N Gaze Janet A Wilson   |
| 12      | Phonosurgery   | Harvey M Tucker   |
| 13      | Paediatric Otolaryngology  | Charles F Ferguson Sylvan E Stool<br>Cuneyt M Alper Ellis M Arjmand                           |
| 14      | Paediatric Otolaryngology  | Charles F Ferguson<br>Edwin L Kendig  |
| 15      | TEMPORAL BONE DISSECTION ANATOMY OF TEMPORAL BONE                              | BARRY J ANSON JAMES A DONALDSON   |
| 16      | Learning Ear By Temporal Bone Dissection                                       | Dr.K.K. Ramalingam Dr. Sreeramurthy B   |
| 17      | CLINICAL AUDIO/VESTIBULOMETRY  | ANIRBAN BISWAS  |
| 18      | Handbook Of Clinical Audiology   | Jack Katz   |
| 19      | Surgical Technique Of The Temporal Bone And Skull Base                         | Silverstain H Rosenber  |
| 20      | Microsurgery Of The Skull Base   | U. Fisch Mattox D   |
| 21      | Functional Endoscopy Sinus Surgery   | Stammberger H   |



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|----|---|----------------------------------|
| 22 | Controversies Of Ent/Otolaryngology   | Myles L Pensak                   |
| 23 | Recent Advances In Otolaryngology   | Lalwani & Pfister                |
| 24 | Operative Otolaryngology<br>Head And Neck Surgery                                 | Eugene Myers Carl Snyderman      |
| 25 | Stell And Maran's Textbook Of Head And<br>Neck Surgery And Oncology Fifth Edition | John C Watkinson Ralph W Gilbert |
| 26 | Anatomical Principles<br>Of Endoscopic Sinus Surgery                              | Renuka Bradoo                    |
| 27 | Atlas Of Microsurgery Of The Lateral Skull<br>Base                                | Mario Sanna                      |
| 28 | ATLAS OF SURGERY OF THE FACIAL NERVE  | D S GREWAL                       |
| 29 | Disease Of The Ear  | Harold Ludman Tony Wright        |
| 30 | Sataloff's Comprehensive Textbook Of<br>Otolaryngology Head And Neck Surgery      | Sataloff                         |
| 31 | Atlas Of Operative Otolaryngology And<br>Head Neck Surgery                        | Hathiram                         |
| 32 | Ear, Nose And Throat Simplified   | Hathiram, Bachi T. & (Et Al)     |
| 33 | Diseases Of Ear , Nose And Throat   | Mohan Bansal                     |

*gc*  
Registrar  
M.S. Ramiah University of Applied Sciences  
Bangalore - 560 054

*Shalini*

Principal and Dean  
M.S. Ramiah Medical College and Hospital  
M.S. Ramiah University of Applied Sciences  
Bangalore - 560 054

*Prasanna*

Dean - Academics  
M.S. Ramiah University of Applied Sciences  
Bangalore - 560 054



JOURNALS

| SL no. | NAME   |
|--------|--|
| 1.     | JAMA OTOLARYNGOLOGY –HEAD AND NECK SURGERY                 |
| 2.     | THE LARYNGOSCOPE   |
| 3.     | INTERNATIONAL JOURNAL OF HEAD AND NECK SURGERY             |
| 4.     | INDIAN JOURNAL OF OTOLARYNGOLOGY AND HEAD AND NECK SURGERY |
| 5.     | EUROPEAN ARCHIVES OF OTORHINOLARYNGOLOGY                   |
| 6.     | OTOLARYNGOLOGY HEAD AND NECK SURGERY                       |
| 7.     | AMERICAN JOURNAL OF OTOLARYNGOLOGY                         |
| 8.     | HEAD AND NECK  |
| 9.     | JOURNAL OF LARYNGOLOGY & OTOLOGY                           |

ADDITIONAL READING

OTOLARYNGOLOGY CLINICS OF NORTH AMERICA



Shalini

Principal and Dean

M.S. Ramaiah Medical College and Hospital  
M.S. Ramaiah University of Applied Sciences

H. K. Rao

Dean - Academics

M.S. Ramaiah University of Applied Sciences  
Bangalore-560054