



Since 1881

## **THE AMERICAN COLLEGE**

(An Autonomous Institution Affiliated to Madurai Kamaraj University)

Re-accredited (2<sup>nd</sup> Cycle) by NAAC with Grade "A" CGPA – 3 .46 on a 4 - point scale

**MADURAI - 625002**

### **SSR Cycle – 3**

#### **Criterion I – Curricular Aspects**

#### **1.1. Curriculum Design and Development**

### **Programme Specific Outcomes (PSOs) – Research Programmes**

#### **Department of English**

#### **Programme Specific Outcomes for MPhil/PhD in English**

On completion of the research programmes, scholars will be able to

1. Define a clear research objective and break it down effectively into smaller objectives;
2. Formulate research questions & problems, and hypotheses;
3. Design research experiment and critically deconstruct texts;
4. Synthesize language/literary theories with the issues of investigation;
5. Adopt diligently MLA/APA Style sheets;
6. Structure academic research articles and theses;
7. Think logically, write coherently, and reorganize intellectually textual properties;
8. Problematize English language teaching methods and approaches, language policies, and language assessment methods;
9. Employ research and statistical tools and activity resources in both qualitative and quantitative research; and
10. Report fluently and flawlessly research findings in international journals and conferences.

## **Department of Commerce**

### **Programme Specific Outcomes (PSOs) for M. Phil Commerce**

Upon completion of the Program, scholars will be able to

1. Pursue Academic and Business researches for the personal and professional development.
2. Comprehend commerce subjects clearly and communicate effectively to be an ideal choice for occupying academic positions.
3. Generate, use and share knowledge about teaching-learning through human development in terms of solving marketing and business problems.
4. Invent new thoughts, concept and smart business strategies in the field of commerce and business.
5. Revisit the conventional theories of business to paradigm shift.
6. Exhibit analytical and problem-solving ability in their business and profession.
7. Possess expertise in research methodology and in data analysis techniques by using ERPs like SPSS.
8. Communicate and implement the research findings effectively to the stakeholders in society.
9. Analyse the impact of new emerging areas of commerce in the global, economic, environmental and social context.
10. Realise the responsibility for the sustainable development of the society.

## **Department of Economics**

### **Programme Specific Outcomes (PSOs) for M. Phil/Ph.D. Economics**

On completion of the programme, postgraduates will be able to

1. Develop critical and quantitative thinking skills specific to business and accounting.
2. Evaluate economic issues and public policy by using economic models or data analysis while identifying underlying assumptions of the model(s) and limitations
3. Demonstrate the ability to frame and solve problems in economics, using concepts such as optimization, equilibrium, and the incentives faced by economic agents. They should demonstrate an understanding of the theoretical tools used to solve economic problems

4. Ability to solve problems that have clear solutions and to address problems that do not have clear answers and explain conditions under which these solutions may be correct.
5. Understanding how to use empirical evidence to evaluate the validity of an economic argument, use statistical methodology, interpret statistical results and conduct appropriate statistical analysis of data.
6. Handling empirical tools used in the analysis of data, including statistics such as mean, variance, and correlation, and the graphical and descriptive representation of data
7. Analyse the ethical and social justice dimensions of market and policy outcomes
8. Communicate effectively in written, oral and graphical form about specific issues and to formulate well-organized written arguments that state assumptions and hypotheses supported by evidence.
9. Examine an economic position in terms of the accuracy of its representations of economic principles and concepts and the soundness of its use of those concepts and principles to make a claim about economics
10. Solve real-world economic problems effectively in the context of an industry or field of study, showing that they can identify and collect the appropriate economic data, analyse data in terms of costs and benefits, present economic data and solutions to problems in a way that is clear and accurate

## **Department of Botany**

### **Program Specific Outcome (PSO) for M. Phil Botany**

The five decade strong Department of Botany has been the integral unit of the college in translating the objective and the mission statement of the college by actively participating in the extension activities research ever in since its inception and upgrade into a research department. In accordance with this commitment it encourages its research scholar to adhere to the following attributes:

1. To commit holistically with devout attention to tertiary learning with sense of pursuing activities to make original contribution to the body of science in the chosen discipline
2. To read widely and adequately in the selected field of specialization that comprehensive exposure to the subjected matter related to research question answered in gained

3. To recognize the reach gap in the interested field of study so as to design experiments and execute them accordingly
4. To pursue research with any preference, bias or a preconceived notion that the spirit of enquiry can be approached unhampered in the true spirit of deciphering research knot
5. To integrate information from all possible avenues that the research inquiry is an made wholesome
6. To provide adequate evidence from the existing body of knowledge related to the research question asked that the hypothesis tested is satisfactorily argued in the light of information available from all quarters
7. To consciously subscribe to the Benjamin Blooms conceptualization of analysis, synthesis and evaluation
8. To hire every possible tool to collect, collate and verify the data collected that the deductions and conclusion made from the enquiry is statistically tested
9. To hone skills need for pictorially and emphatically presenting the findings from research by conforming to the standards and benchmarks set in the domain researched.
10. To actively participate in the process of knowledge dissemination in presenting papers in national and international conferences and submitted article and papers for publication in peer reviewed journals

## **Department of Chemistry**

### **Programme Specific Outcomes (PSOs) for M. Phil Chemistry**

On completion of the programme, postgraduates will be able to

1. Gain knowledge in advanced chemistry topics related to organometallic chemistry, green chemistry, analytical methods spectroscopic techniques and molecular machines.
2. Develop innovative methodologies to tackle the current issues and contributing to the development of technological knowledge and intellectual property.
3. Exhibit skills in literature survey, designing synthetic methodologies and characterizing the ventured compounds.
4. Handle equipments needed for synthesis, characterization
5. Analyze and interpret the data with theoretical background and software. Utilize online search engines to study the research problem and evolve new research ideas.

6. Effectively communicate themes relating to chemistry.
7. Apply skills in the handling chemical compounds by identifying their chemical and physical properties including any specific hazards associated with their usage.
8. Analyse the impact of new emerging areas of chemistry in the global, economic, environmental and societal context.
9. Pursue research, succeed in competitive examinations and emerge as successful entrepreneurs.
10. Evolve as excellent researchers in the public sector units TNSCST/BARC/DRDO/CSIR/National? International laboratories and contribute towards the scientific growth of the country.

## **Department of Mathematics**

### **Programme Specific Outcomes for M. Phil Mathematics**

On completion of the programme, the research scholars will be able to

1. Entrain oneself as a scholar with continuing reading habit and analytical skills to objectively look at things and propose innovative and original research according to the emerging demand.
2. Equip themselves for independent learning and research.
3. Keep on discovering new avenues in the chosen field and exploring areas that remain conducive for research and development.
4. Assimilate complex and intricate mathematical concepts and use logical deductions for construction of irrefutable proof.
5. Interpret and critically evaluate information from a range of sources that include books, scientific reports, journals, case studies and the internet.
6. Do programming and coding in the recent software and languages. Explore the new frontiers of knowledge in Mathematics.
7. Become a successful learner/ researcher in inter-disciplinary fields of study.
8. Produce and defend an original contribution to knowledge, as evidenced by the writing and defense of a dissertation involving significant original research.
9. Publish research articles in reputed journals.

10. Contribute to the nation as an innovator by taking up research career afterwards.

## Department of Physics

### Programme Specific Outcomes for M. Phil Physics

On completion of the programme, students will be able to

1. Demonstrate a coherent understanding of the academic field of Physics, and its linkage with related disciplinary subjects;
2. Demonstrate the ability to use Physics skills such as formulating, identifying, and applying appropriate methodologies to solve and interpret a wide range of problems associated with Physics;
3. Extrapolate from what one has learned and apply their competencies to solve different kinds of non-familiar problems, rather than replicate curriculum content knowledge and apply one's learning to real life situations;
4. Design and execute projects to experience the aspects of research and to provide lucid summation of the scientific literature on a chosen topic;
5. Analyse and interpret data collected using appropriate methods, including the use of suitable software and customized worksheets, and relating the conclusions to relevant theories of Physics;
6. Demonstrate professional behaviour such as (i) being objective, unbiased and truthful in all aspects of work; and (ii) appreciation of intellectual property, environmental and sustainability issues;
7. Develop communication skills, both written and oral, for specialized and non specialized audience;
8. Acquire subject knowledge and skills of the calibre sought by industry, professional career and public service, as well as providing academic teachers and researchers of the future;
9. Demonstrate relevant generic skills and global competencies such as (i)skills of independent investigation of physics-related issues and problems; (ii)ability to construct logical arguments using correct technical language related to physics;

10. Acquire knowledge and skills, including, “learning how to learn” that are necessary for participating in learning activities throughout life.

## **Department of Zoology**

### **Programme Specific Outcomes for M. Phil Zoology**

Upon completion of this Programme, the scholars will be able to:

1. Utilize biological techniques which can be applied in Zoological research.
2. Design and solve a research problem in any of the disciplines in Zoology.
3. Contribute to the accumulation of knowledge and information relevant to Zoology.
4. Analyze the concepts and developments in Zoology with an aptitude for continued self-directed learning.
5. Perform experiments, collect data related to animals and document them as a thesis and imbibe skills of communication and problem solving.
6. Use literature relevant to Zoological research using different sources and relate information relevant to their field of research.
7. Assess the principles, working methods and applications of equipment’s used in Biology research.
8. Compute and analyze data statistically using packages.
9. Create new concepts and publish their findings in conferences and journals which may be of use to the scientific society.
10. Assess the developments across the disciplines of Zoology.

## **Department of Business Administration**

### **Programme Specific Outcomes for M. Phil Management**

On completion of the programme, the research scholars will be able to

1. Prepare and publish research articles in the area of Research interest.
2. Analyse the research opportunities and unresolved issues in the field of business administration.
3. Acquire in-depth knowledge of the core functions of management.
4. Apply innovative methodologies to assess and resolve the issues in management.

5. Develop professional skills and contribute to the development of scientific knowledge of the management.
6. Apply the principles related to human resources management.
7. Critically evaluate the fundamental concepts of accounting and finance.
8. Design and conduct survey, experiments and apply the findings in managerial decision making.
9. Analyse the contemporary issues in all the functional areas of business.
10. Demonstrate the teaching and leadership skills.

## Department of Tamil

### Programme Specific Outcomes for M. Phil Tamil

#### Programme Specific Outcomes (PSOs) for Research Programmes

நிறை நிலை (எம்.பில்) கற்ற மாணவர்கள் பின்வரும் திறன்களைப் பெற்றிருப்பர் (கற்றலின் விளைவு):

1. தமிழ்மொழியின் செவ்வியல் கூறுகளையும், இன்றைய தமிழின் நவீனக் கூறுகளையும் உருவ மற்றும் உள்ளடக்க நிலையில் - ஆராய்ச்சி முறையில் அணுகி, இரண்டிற்கும் உள்ள வேர்களையும் மொழிக்குள் இயங்கும் அறுபடாத மரபுத் தொடர்ச்சியையும் இனங்காணும் திறன் பெற்றிருப்பர்.
2. தமிழ் இலக்கணமும் இலக்கியமும் ஒன்றுடன் ஒன்று இயைந்து இருப்பதை இனங்கண்டும், அவை காலத்தோறும் சமூக, அரசியல் மற்றும் பொருளாதாரச் சூழலால் தாக்கங்களுக்கு உள்ளாவதையும் ஆராய்ச்சி மனப்பான்மையுடன் அணுகும் திறன் பெற்றிருப்பர்.
3. தமிழ்மரபில் தோன்றிய கோட்பாடுகளையும், மேலைத் தேயத்துக் கோட்பாடுகளையும் பிரதியுடன் பொருத்தியும், விவாதித்தும் ஆய்வை அடுத்தக்கட்ட வளர்ச்சியை நோக்கி நகர்த்திச் செல்லுகிற திறனைப் பெற்றிருப்பர்.
4. ஆய்வு மனப்பான்மையுடன் படைப்பை அணுகும் திறத்தையும், தொடர்ந்து வாசிக்கும் பழக்கத்தையும் கொண்டிருப்பதால், புதுமையான மெய்மைகளை வெளிக்கொணர்ந்து சிறந்த ஆய்வாளராகும் பேறு பெற்றிருப்பர்.
5. ஆய்வுக்குத் தொடர்பான தரவுகளையும், சான்றாதாரங்களையும் தொகுக்கவும் மற்றும் பகுக்கவும் அறிந்திருப்பதால், அவற்றின் மூலம் ஆய்வின் நோக்கத்தை நிறைவேற்றும் ஆய்வாளராகும் திறன் பெற்றிருப்பர்.
6. கண்டறிந்த ஆய்வின் மெய்மைகளைக் காலத்திற்கேற்பப் புதுமையாக்கிக் கொண்டு அவற்றின் மூலம் சமூக முன்னேற்றத்திற்கும், தொழில் நுட்ப வளர்ச்சிக்கும் பயன்படுத்துகிற திறன் பெற்றிருப்பர்.
7. தகவல் தொடர்புச் சாதனங்களைப் பயன்படுத்தும் திறன் மூலம் பேட்டி, நேர்காணல், வினாநிரல், பட்டியல் போன்றவற்றைத் தயாரித்து ஆய்வுக்கேற்ப அவற்றை வடிவமைக்கும் திறன் பெற்றிருப்பர்.
8. இலக்கண மற்றும் இலக்கிய மரபுகளின் வழியாகவும், பல்வேறு கோட்பாடுகளின் வழியாகவும் பெற்ற கருத்துக்களைக் கொண்டு, ஆய்வுக்கேற்ற, தேர்த்தியான கருதுகோளை வடிவமைக்கவும், சோதித்தறியவும், வரையறை செய்யவுமாகிய திறன் பெற்றிருப்பர்.
9. பலவிதப்பட்ட அணுகுமுறைகளை மற்றும் கோட்பாடுகளைக் கொண்டு, தமக்கான ஆய்வுச் சிக்கலை, உயிரோட்டமான ஆய்வுத் தலைப்பைத் தேர்வு செய்கிற திறன் பெற்றிருப்பர்.



10. ஆய்வுக்குரிய விதிமுறைகளைப் புரிந்து கொண்டு, ஆய்வு முடிவுகளை முன் வைத்து ஆய்வுக் கட்டுரைகள் எழுதவும், அவை தொடர்பாகப் பேசவும், விவாதிக்கவுமான திறன் பெற்றிருப்பர்.

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