1. Processing of low temperature amorphous Ga_2O_3 thin film materials and their applications

2. Perovskite solar cell—current materials research status and applications

3. Recent development of flexible UV photodiodes based on the metal-semiconductor-metal device structure.

4. Recent development of flexible electrode thin films for optoelectronic device applications

5. Wide band gap quantum dots-based light emitting devices

6. Flexible electronic or optoelectronic devices based on flexible substrates

7. Synthesis, properties and applications of carbon nanotubes for optoelectronic devices

8. Surface plasmon polariton (SPP) application in optoelectronic devices

9. Recent development of organic electronic thin films for smart window

10. Development of Diamond thin film materials for electronic device applications

11. Development of transparent conducting oxide thin films by PVD techniques and their applications

12. Growth and application of epitaxial electronic thin films by Molecular Beam Epitaxy

13. Future smart sensors: materials, synthesis, and difficulties

14. Recent development of superconductor thin films by pulsed laser deposition (PLD) technology

15. Properties and applications of graphene and/or other 2D materials

16. Synthesis and characteristics of electronic thin film materials for gas sensors

17. Applications of organic semiconducting thin films for flexible

electronic devices

18. Applications of X-ray photoelectron spectroscopy (XPS) for surface properties of electronic thin films

19. Wide bandgap semiconductors based nano-lasers

20. Growth and application of SiC by Plasma Enhanced Chemical Vapor Deposition

Final presentation requirements:

1. Both of the oral presentation and written report should include several parts, including: “Introduction, Recent research status, Main investigation methods, Conclusions/Future aspects”, etc…
2. Each presentation needs to include the study of 2 or 3 most recently published journal papers.
3. Course chapter PPTs can NOT be used for each presentation topic.