



ALL SAINTS' COLLEGE
TRIVANDRUM, KERALA

ADD ON COURSE

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Department of Zoology
All Saints' College, Thiruvananthapuram
Add on Course - 2018-19

The Department of Zoology is conducting the following Add on Course during the academic year 2018-19 for UG students of the college

Course

Human Genetics

To provide basic understanding of human heredity and help students understand causes, prevention and potential/available treatment of diseases that have a genetic component

Duration
30 hrs

Date of Commencement : 06-10-2018

Register before
04-10-2018

For further queries, please contact the Course Coordinator
Phone no: 8157966828

Course Coordinator ; Smt. Divya Grace Dilip HoD ; Dr.Dhanalekshmy T G

Department of Zoology

Principal

All Saints' College



2018-19

Name of Course	Add on Course on HUMAN GENETICS
Department offering the Course	DEPARTMENT OF ZOOLOGY
Course Duration	30 Hours
Faculty In Charge	Smt. Divya Grace Dilip

About the course

Human Genetics is a very wide as well as a rapidly advancing subject and one which interests even a layman. Last two decades have revolutionized our early understanding of the basic concepts of Genetics, genome organization, gene structure and function. Considering that purview of medical genetics is now all of medicine and involves ethical issues, this study will remain incomplete without serious discussion on these issues.

Objective-This introductory course attempts to walk the students through classical genetics and molecular genetics with a cautionary endnote on range of ethical, legal and social issues which are also the logical consequences of such unparalleled scientific progress.

Module I

10Hrs

General features of human chromosomes, Chromatin structure, Constitutive and facultative heterochromatin, Nucleosome, Solenoid model, Centromeres, Kinetochores, Telomeres, Nuclear organization region (NOR), Human artificial chromosomes. Growth and development of medical genetics (1956-to-present), Role of genetics in medicine, Types of genetic disorders — single gene, chromosomal, multifactorial.

Module II

5 hrs

Clinical Applications of Medical Genetics — Prenatal diagnosis: purpose, indications and techniques — invasive and non-invasive, Amniocentesis, Chorionic villus sampling, Ultrasound, Fetoscopy, Maternal serum screening, Fetal cells in maternal blood, Preimplantation diagnosis, Effect of mutagenic and teratogenic exposure in early pregnancy.

Module III

5 Hrs

Genetic Counselling — Process, Role of genetic counsellors, Diagnostic problems in genetic counselling, Psychosocial aspects of genetic counselling, Genetic care pathway and preventive management guidelines. Role of social workers, nutritional, occupational, physical, speech

therapist, psychologists and school professionals in genetics, Gene therapy and stem cell research in clinical genetics.

Module IV

10Hrs

The Human Genome Project, Goals and organization, Benefits and ELSI, Draft and complete sequence of the Human Genome, Overview of Human Genome Diversity Project, Environmental Human Genome Project, Bioethics, Ethical dilemmas —Genetic selection, Germline gene therapy, Genetic screening, Health and disease, Genetic determinism, Assisted reproduction.

Learning outcomes

- An understanding of the basic concepts and scientific methods of modern genetics as it applies to humans
- Developing conceptual skills to address questions in genetics research and clinical practice
- Developing critical thinking with regard to reports of advances in genetics and their social implications

ASSESSMENT GUIDELINE

- 1) Pop quizzes
- 2) Regularity in attending the sessions

BOOKS RECOMMENDED

1. Almond, B. and Parker, M. (Eds.) (2003). Ethical Issues in New Genetics: Are Genes Us? Ashgate Publishing Ltd., England.
2. Bryant, A., Baggott la Velle, L. and Searle, J. (Eds.) (2002). Bioethics for Scientists. John Wiley and Sons Ltd., England.
3. Cassidy, S.B. and Allanson, J.E. (2010). Management of Genetic Syndromes. Wiley-Blackwell, 3rd ed.
4. Cummings, M.R. (2009). Human Genetics. Cengage Learning, USA.
5. Gardner, E.J. (2012). Human Genetics. Viva Books Pvt. Ltd., India.
6. Gardner, R.J.M., Sutherland, G.R. and Shaffer, L.G. (2011). Chromosome Abnormalities and Genetic Counselling. Oxford University Press, 4th ed.

7. Gunder, L.M. and Sudbury, S.A.M. (2011). Essentials of Medical Genetics for Health Professionals. Jones and Bartlett Learning.
8. Hudgins, L., Toriello, H.V. Enns, G.M. and Hoyme, H.E. (Eds.) (2014). Signs and Symptoms of Genetic Conditions: A Handbook. Oxford University Press, London, 1st ed., p. 560.
9. Jecker, N.S., Jonsen, A.R. and Pearlman, R.A. (2010). Bioethics: An Introduction to History, Methods and Practice. Jones and Bartlett, New Delhi, 2nd ed.
10. Jorde, L.B., Carey, J.C. and Bamshad, M.J. (2010). Medical Genetics. Mosby, 4th ed.
11. Korf, B.R. and Irons, H.B. (2013). Human Genetics and Genomics. John Wiley and Sons, Hoboken, 4th ed.




Principal
All Saints' College
Thiruvananthapuram.



Dr DHANALEKSHMY T.G., M.Sc. Ph.D.
Head of the Department
Department of Zoology
All Saints College
Thiruvananthapuram-695007





Department of Zoology
All Saints' College, Thiruvananthapuram
Value Added Courses - 2018-19

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Phone no: 8157966828



Course Coordinator ; Smt. Divya Grace Dilip HoD ; Dr.Dhanalakshmy T G

Department of Zoology

Esma
Principal

All Saints' College
Thiruvananthapuram-7



COURSE COMPLETION CERTIFICATE

This is to certify that Ms. **GOPIKA V R** (Reg No. 25017100016) has successfully completed the 30 hour Add On Course on HUMAN GENETICS from 06-10-2018 to 24-11-2018, which was organised by Department of Zoology, All Saints' College, Thiruvananthapuram.

Divya Grace Dilip
COURSE CO-ORDINATOR

Dr. Dhanalekshmy T.G
HOD

Dr. Caroline Beena Mendez
PRINCIPAL





COURSE COMPLETION CERTIFICATE

This is to certify that Ms. **MERITTA JOY** (Reg No. 25017100025) has successfully completed the 30 hour Add On Course on HUMAN GENETICS from 06-10-2018 to 24-11-2018, which was organised by Department of Zoology, All Saints' College, Thiruvananthapuram.

Divya Grace Dilip
COURSE CO-ORDINATOR

Dr. Dhanalekshmy T.G
HOD

Dr. Caroline Beena Mendez
PRINCIPAL





COURSE COMPLETION CERTIFICATE

This is to certify that Ms. Meera Rajeev (Reg No. 25017100024) has successfully completed the 30 hour Add On Course on HUMAN GENETICS from 06-10-2018 to 24-11-2018, which was organised by Department of Zoology, All Saints' College, Thiruvananthapuram.

Divya Grace Dilip
COURSE CO-ORDINATOR

Dr. Dhanalekshmy T.G
HOD

Dr. Caroline Beena Mendez
PRINCIPAL





COURSE COMPLETION CERTIFICATE

This is to certify that Ms. Nisha G.(Reg No. 25017100044) has successfully completed the 30 hour Add On Course on HUMAN GENETICS from 06-10-2018 to 24-11-2018, which was organised by Department of Zoology, All Saints' College, Thiruvananthapuram.

Divya Grace Dilip
COURSE CO-ORDINATOR

Dr. Dhanalekshmy T.G
HOD

Dr. Caroline Beena Mendez
PRINCIPAL



37	25017100039	LEKSHMI A S	x	x	x	x	x	x	x	x	x	Lekshmi	46
38	25017100040	MAYA M	x	x	x	x	x	x	x	x	x	Maya	47
39	25017100041	MERIN CHRISTOPHER	x	x	x	x	x	x	x	x	x	Merin	43
40	25017100042	NEETHU SOUMYA K P	x	x	x	x	x	x	x	x	x	Neethu	39
41	25017100043	NIMISHA MANOHAR VM	x	x	x	x	x	x	x	x	x	Nimisha	49
42	25017100044	NISHA G	x	x	x	x	x	x	x	x	x	Nisha	47
43	25017100046	ROSHNA ROBERT	x	x	x	x	x	x	x	x	x	Roshna	45
44	25017100049	A R LEKSHMI BHAI	x	x	x	x	x	x	x	x	x	Ar	41
45	25017100050	JIBILEE BOSE	x	x	a	a	a	x	x	x	x	Jibilee	40
46	25017100052	SANDRA ANIL	x	x	x	x	x	x	x	x	x	Sandra	47
47	25017100053	STEPHY MARIYA ALEXANDER	x	x	x	x	a	a	a	x	x	Stephy	50

Dr. G. G. G. G.

SIGNATURE OF FACULTY IN CHARGE

Dhanya

SIGNATURE OF HoD

Dr DHANALEKSHMI Y.G. M.Sc. Ph.D.
 Head of the Department
 Department of Zoology
 All Saints College
 Thiruvananthapuram 695007

SIGNATURE OF PRINCIPAL

Amritha

Principal
 All Saints' College
 Thiruvananthapuram





ALL SAINTS' COLLEGE

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COURSE SUMMARY REPORT

2018-19

Name of Course	<i>Add on Course on 'HUMAN GENETICS' (ZOO.A.18.2)</i>
Department offering the Course	Dept. of Zoology
Course Duration	30 Hours
Faculty In Charge	Ms. Divya Grace Dilip
Number of students enrolled	47
Start date and End Date	06.10.2018- 24.11.2018

The ***Add on Course on 'HUMAN GENETICS'*** (ZOO.A.18.2) was coordinated by the Department of Zoology, All Saints' College, Thiruvananthapuram. The course was specially designed to provide an understanding on Disaster Management. The course had a well-defined syllabus and was approved by the IQAC. The add on course was coordinated by Ms. Divya Grace Dilip, Assistant Professor, Department of Zoology. The course was properly planned and organised to provide maximum support to students during their learning process. The course duration was 30 hours and 47 students enrolled for the course. During the end of course, an exit examination was conducted. All students wrote the examination. Final assessment was done based on the assignment submitted by students during the course and the marks secured by them during the final exit examination. All students passed in the examination. Certificates were also provided to them after the successful completion of the course.



Roshini
Principal
All Saints' College
Thiruvananthapuram-7