University of Mumbai

No. AAMS (UG) /146 of 2021

CIRCULAR:-

Attention of the Principals of the Affiliated Colleges and Directors of the recognized Institutions in Faculty of Science and Technology.

They are hereby informed that the recommendations made by the Ad-hoc Board of Studies in **Home Science** at its meeting held on 20th March, 2021 **vide** item No. **1(v)** and subsequently passed by the Board of Deans at its meeting held on 11th June, 2021 **vide** item No. **8.6** have been accepted by the Academic Council at its meeting held on 29th June, 2021, **vide** item No. **8.6** and subsequently approved by the Management Council at its meeting held on 29th July, 2021 **vide** item No. **16** and that in accordance therewith, in exercise of the powers conferred upon the Management Council under Section 74(4) of the Maharashtra Public Universities Act, 2016 (Mah. Act No. VI of 2017) the Ordinance **6683 & 6684** Regulations **9426 & 9427** and the syllabus of **Add-On Online & Offline Diploma Course in CAD, CAM and Computer Technologies in the Textile and Apparel Industry – Advanced** has been introduced and the same have been brought into force with effect from the academic year **2022-23**, accordingly. (The same is available on the University's website www.mu.ac.in).

(Sudhir S. Puranik)
REGISTRAR

MUMBAI – 400 032
25th October, 2021
To ,

The Principals of the Affiliated Colleges and Directors of the recognized Institutions in Faculty of Science and Technology. (Circular No. UG/334 of 2017-18 dated 9th January, 2018.)

A.C/8.6/29/06/2021
M.C/16/29/07/2021

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No. AAMS (UG) /146-A of 2021 MUMBAI-400 032 25th October, 2021

Copy forwarded with Compliments for information to:-

1) The Chairman, Board of Deans
2) The Dean Faculty of Science and Technology,
3) The Chairman, Ad-hoc Board of Studies in Home Science,
4) The Director, Board of Examinations and Evaluation,
5) The Director, Board of Students Development,
6) The Co-ordinator, University Computerization Centre,

(Sudhir S. Puranik)
REGISTRAR

Copy to :-

1. **The Deputy Registrar, Academic Authorities Meetings and Services (AAMS),**
2. **The Deputy Registrar, College Affiliations & Development Department (CAD),**
3. **The Deputy Registrar, (Admissions, Enrolment, Eligibility and Migration Department (AEM),**
4. **The Deputy Registrar, Research Administration & Promotion Cell (RAPC),**
5. **The Deputy Registrar, Executive Authorities Section (EA),**
6. **The Deputy Registrar, PRO, Fort, (Publication Section),**
7. **The Deputy Registrar, (Special Cell),**
8. **The Deputy Registrar, Fort/ Vidyanagari Administration Department (FAD) (VAD), Record Section,**
9. **The Director, Institute of Distance and Open Learning (IDOL Admin), Vidyanagari,**

They are requested to treat this as action taken report on the concerned resolution adopted by the Academic Council referred to in the above circular and that on separate Action Taken Report will be sent in this connection.

1. **P.A to Hon'ble Vice-Chancellor,**
2. **P.A Pro-Vice-Chancellor,**
3. **P.A to Registrar,**
4. **All Deans of all Faculties,**
5. **P.A to Finance & Account Officers, (F.& A.O),**
6. **P.A to Director, Board of Examinations and Evaluation,**
7. **P.A to Director, Innovation, Incubation and Linkages,**
8. **P.A to Director, Board of Lifelong Learning and Extension (BLLE),**
9. **The Director, Dept. of Information and Communication Technology (DICT) (CCF & UCC), Vidyanagari,**
10. **The Director of Board of Student Development,**
11. **The Director, Department of Students Walfare (DSD),**
12. **All Deputy Registrar, Examination House,**
13. **The Deputy Registrars, Finance & Accounts Section,**
14. **The Assistant Registrar, Administrative sub-Campus Thane,**
15. **The Assistant Registrar, School of Engg. & Applied Sciences, Kalyan,**
16. **The Assistant Registrar, Ratnagiri sub-centre, Ratnagiri,**
17. **The Assistant Registrar, Constituent Colleges Unit,**
18. **BUCTU,**
19. **The Receptionist,**
20. **The Telephone Operator,**
21. **The Secretary MUASA**

for information.

(Appendix 'B')

New ordinances 6683 & 6684 relating to the Add – On Online & Offline Diploma Course in CAD, CAM and Computer Technologies in the Textile and Apparel Industry – Advanced.

1. Necessity for starting these course:

A. a. To facilitate new skill development amongst students as per changing needs of the industry for placements and internships.

b. To facilitate students to take up interdisciplinary courses based on their interests and aptitude.

c. This course is created to develop professionals with expertise in CAD and CAM in the Apparel Industry to cater to the ever-increasing need of the fashion and apparel industry.

Specific Objectives of the course:

i. To introduce a career oriented and skill enhancing course on CAD, CAM and Computer Technologies in the Apparel Industry
ii. To impart knowledge regarding importance of CAD, CAM and Computer Technologies in the Apparel Industry
iii. To enable the students develop entrepreneurial abilities in the field of fashion and apparel.
iv. To gain knowledge about use computer in textile apparel designing.
v. To observe and understand the designing of textile apparel through computers.

2. Whether UGC has recommended to start the said course?

A. Yes. UGC has recommended skill based/vocational/technical courses.

3. Whether all the courses have commenced from the academic year 2019-20

A, We plan to commence the courses from academic year 2022 - 23

4. The courses started by the University are self financed, whether adequate number of eligible permanent Faculties are available?

A. The courses are self financed. Adequate permanent faculties are available to facilitate the running of the courses.

5. To give details regarding duration of the course and is it possible to compress the course

A. It is possible to complete the courses during the academic year. It is not possible to further compress the courses.

6. The intake capacity of each course and number of admissions given in the current academic year 2019-20

A. Maximum 30 students in a batch

7. Opportunities of Employability/Employment available after taking these courses.

A. Many new opportunities are available after the courses

AC- 29/06/2021
Item No. – 8.6 (N)

UNIVERSITY OF MUMBAI

ADD – ON ONLINE & OFFLINE DIPLOMA COURSE IN CAD, CAM AND COMPUTER TECHNOLOGIES IN THE TEXTILE AND APPAREL INDUSTRY- ADVANCED

(to be introduced with effect from the academic year 2022-23)

UNIVERSITY OF MUMBAI

Syllabus for Approval

Sr. No.	Heading	Particulars
1	Title of the Course **O.6683**	**ADD – ON ONLINE & OFFLINE DIPLOMA COURSE IN CAD, CAM AND COMPUTER TECHNOLOGIES IN THE TEXTILE AND APPAREL INDUSTRY- ADVANCED**
2	Eligibility for Admission **O.6684**	Graduates from any Field of Education
3	Passing Marks **R - 9426**	120
4	Ordinances / Regulations (if any)	
5	No. of Years / Semesters **R - 9427**	2 Semesters (1 year)
6	Level	~~P.G. / U.G./~~ Diploma / ~~Certificate~~ **(Strike out which is not applicable)**
7	Pattern	~~Yearly~~ / Semester **(Strike out which is not applicable)**
8	Status	New / ~~Revised~~ **(Strike out which is not applicable)**
9	To be implemented from Academic Year	From Academic Year 2022-23

Name & Signature of BOS Chairperson : **Dr. (Mrs.) Geeta Ibrahim**

Name & Signature of Dean: _____

ADD – ON ONLINE & OFFLINE DIPLOMA COURSE IN CAD, CAM AND COMPUTER TECHNOLOGIES IN THE TEXTILE AND APPAREL INDUSTRY- ADVANCED

Type of Course- Add on One-year Diploma Course

Duration of Course: 72 hours of theory and practical

24 hours for self - work for gaining hands on experience through projects/internship

Mode of instruction: Offline and online

Experts will be called from outside and linkages and networks will be tapped for inviting resource persons involving participant learning

Vision: To develop professionals with expertise in CAD and CAM in the Apparel Industry to cater to the ever-increasing need of the fashion and apparel industry.

Mission: To equip students with theoretical knowledge and impart practical training as envisaged in the vision. Thus, enabling the students to acquire additional applied skills while pursuing the fulltime programme / occupation.

Objectives:

i. To introduce a career oriented and skill enhancing course on CAD, CAM and Computer Technologies in the Apparel Industry
ii. To impart knowledge regarding importance of CAD, CAM and Computer Technologies in the Apparel Industry
iii. To enable the students, develop entrepreneurial abilities in the field of fashion and apparel.
iv. To gain knowledge about use computer in textile apparel designing.

Eligibility:

- Graduate from any field.
- Pre-requisite: CAD, CAM, and Computer Technologies in the Textile and Apparel Industry Basic and Intermediate Course or its equivalence.
- It is mandatory for M.Sc. II Home Science Branch III students of Textile and Fashion Technology to complete the one-year Diploma in CAD, CAM and Computer Technologies in the Textile and Apparel Industry- Advanced course (as indicated in the syllabus of the regular M.Sc. Home Science Branch III Textile and Fashion Technology Course)

Intake capacity: Minimum 09 students per batch.

Credits: 9 credits

Fees for the course: Rs. 7,000/- (+ GST applicable) per student

Honorarium: Rs. 750/- per hour for Practical and Rs. 500/- per hour for Theory

Coordinator fees for academic year/course: Rs. 5,000/- entire course

SYLLABUS

Preamble to the Course

Textile and apparel industry are moving towards automation and computer aided designing and manufacturing has taken prime importance in this aspect. Therefore, knowledge and skills of CAD/CAM in the field of textile and apparel industry has become a need for the students pursuing their degree in this field. This course aims to develop professional with expertise in CAD and CAM in the textile and apparel industry to cater to the ever-increasing need of the fashion and apparel industry. It will equip students with theoretical knowledge and impart practical training thus enabling the students to acquire additional applied skills while pursuing the fulltime programme / occupation.

SEMESTER I

Title	Internal Assessment Marks	Semester End Examination	Total Marks	Total Hours	Credits
CAD CAM and Computer Technologies in Textile & Apparel Marketing Sectors (Theory)- III	40	60	100	24	3
Computer Technologies in Textile and Apparel Marketing Sectors (Practical)- V	40	60	100	24	3
Computer Technologies in Textile and Apparel Marketing Sectors (Practical)- VI	40	60	100	24	3

Title of the Course	Total Hours	Marks allotted	Credits for the Course
CAD CAM and Computer Technologies in Textile & Apparel Marketing Sectors (Theory)-III	**24**	**100**	**3**

Objectives

1. To introduce computer technologies used in marketing of textile, woven and knitted fabrics and / visits to industries / organizations.
2. To introduce computer technologies used in retail and other sectors of apparel industry using software and / visits to industries/organizations.

Unit	Course Content	Hours
I	Fashion Marketing and Merchandising Basic concept and objectives of fashion merchandising Principles that underpins the fashion marketing and merchandising concept development and adaptation	08
II	Digital Marketing Social Media Using Social Media for Retail/Promotions	08
III	Understanding World Wide Web Basics of HTML	08

Learners to make presentations/assignments on selected topics which will be marked

References:

- Anderson, C. (2006). *The Long Tail.* Hyperion Books.
- Barker, L. (1978). *Communication*, New Jersey: Prentice Hall, Inc; 171.
- Berkowitz, K., Hartley, R. (1994). *Marketing* (4th Ed.)
- Blau, P.M. (1964). *Exchange and Power in Social Life*. New York: Wiley.
- Castro, Elizabeth and Hyslop . (2013). *HTML5, and CSS* (8th Ed.). Peachpit Press.
- Daver, R. S. Modern (1992). *Marketing Management*. Progressive Corporation
- Devlin, Ian (2001). *HTML5 Multimedia: Develop and Design.* Peachpit Press.
- Diamond, E. (2006). *Fashion Retailing*. New Jersey: Pearson Prentice Hall.
- Donnellon, J. (1999). *Merchandizing Buying and Management.* New York: Fairfield Publications.
- Ed. Hines, T. and Bruce, M. (2001). *Fashion marketing*. Oxford: Buttersworth Heinemann.
- Felke-Morris (2019). *Basics of Web Design: HTML5 & CSS3* (5th Ed.). Pearson Education.
- Felke-Morris (2020). *Web Development & Design Foundations with HTML5* (10th Ed.). Addison-Wesley.
- Gandhi, R.S., Mehta, Talele, A.B. (1992). *De-centralized sector of the Indian textile industry*. NICTAS Publication
- Jackson, T. & Shaw, D. (2001). *Mastering fashion buying and merchandising management.* New York: Palgrave.

- Jarnow, J., Guereira, M. & Judelle, B. (1987). *Inside the fashion business* (4thEd.). New York: MacMillan.
- Kale, N.G. (1997). *Principles and practices of marketing*. Mumbai: Vipul Prakashan.
- Kotler, P. (1998). *Marketing Management.* India: Prentice Hall.
- Kunz, G. (2005). *Merchandizing: Theory Principles & Practice.* New York: Fairfield Publications & Practice.
- Sengupta, S. (1990). *Brand positioning strategies for competitive advantage*. Tata McGraw
- Singh (1989). *Marketing and consumer behaviour*. India: Deep & Deep.
- Stanton, W.J, Etzel, M.J., &Walker, B.J. (1994). *Fundamental of marketing* (10th Ed.). McGraw Hill

Title of the Course	Total Hours	Marks allotted	Credits for the Course
Computer Technologies in Textile and Apparel Marketing Sectors (Practical)- V	**24**	**100**	**3**

Objectives

1. To introduce computer technologies used in textile, woven and knitted fabrics and / visits to industries / organizations.
2. To introduce computer technologies used in retail and other sectors of apparel industry using software and visits to industries/organizations.

Unit	Course Content	Hours
I	Basics of HTML Editing HTML	08
II	Creating a Single Page Website Using Images	08
III	Batch Renaming Creating a Gallery	08

Learners to make portfolios/assignments of all practical work done which will be marked

- Visit to computerized quality control units
- Visit to textile industries and craft centres
- Visit to a fashion and apparel industry
- Internship in design house and apparel

References:

- Castro, E. and Hyslop (2013). *HTML5, and CSS* (8th Ed.). Peachpit Press.
- David, S. M. (2013). *CSS 3 – The Missing Manual* (3rd Ed.). O'Reilly.
- Devlin, I. (2011). *HTML5 Multimedia: Develop and Design.* Peachpit Press.
- Felke-Morris (2019). *Basics of Web Design: HTML5 & CSS3* (5th Ed.). Pearson Education.
- Felke-Morris (2020). *Web Development & Design Foundations with HTML5* (10th Ed.). Addison-Wesley.
- Keith, J. and Andrew, R. (2016). *HTML5 For Web Designers.* A Book Apart.

- Lawson, B. and Sharp, R. (2010). *Introducing HTML5.* New Riders Press.
- MacDonald, M. (2011). *Creating a Website – The Missing Manual* (3rd Ed.). O'Reilly.
- MacDonald, M. (2014), *HTML 5 – The Missing Manual* (2nd Ed.) O'Reilly.
- Meiert, J. O. (2015). *The Little Book of HTML/CSS Coding Guidelines.* O'Reilly.
- Meiert, J. O. (2019). *Upgrade Your HTML (the Booklet).* Amazon Digital Services LLC.
- Pfeiffer, S. and Green, T. (2015). *Beginning HTML5 Media.* APress.
- Powers, Shelley (2011). *HTML5 Media Integrating audio and video with the Web.* O'Reilly.
- Thomas, A (2010). *HTML & CSS: The Complete Reference* (5th Ed.). McGraw-Hill

Title of the Course	Total Hours	Marks allotted	Credits for the Course
Computer Technologies in Textile and Apparel Marketing Sectors (Practical)- VI	**24**	**100**	**3**

Objectives

1. To introduce Computer Technologies used in Textile, Woven & Knitted fabrics and / visits to industries / organizations.
2. To introduce Computer Technologies used in Retail and other sectors of Apparel Industry using software's and / visits to industries/organizations.

Unit	Course Content	Hours
I	Understanding 3D 3d Illustrations	08
II	Creating and Applying Textures	08
III	Creating seamless Patterns	08

Learners to make portfolios/assignments of all practical work done which will be marked

- Visit to computerized quality control units
- Visit to textile industries and craft centres
- Visit to a fashion and apparel industry
- Internship in design house and apparel

References:

- Bang, M (2001). *Picture This.* Sea Star Books.
- Birn, J (2014). *Digital Lighting and Rendering* (3rd Ed.). New riders.
- Brazell, D. & Davies, J. (2017), *Becoming a Successful Illustrator.* Bloomsbury Visual Arts.
- Gurney J. (2010). *Colour and Light.* Andrews McMeel Publishing.
- Hunter, F., Biver, S. & Fuqua, P. (2015), *Light Science & Magic: An Introduction to Photographic Lighting*. Focal Press.
- Loomis, A. (2011). *Figure Drawing for all it's Worth.* Titan Books.
- Rees, D. (2008). *How to Be an Illustrator.* Laurence King.
- Scobie, L. (2017). *365 Days of Art.* Hardie Grant Books.
- Yot, R. (2014). *Light for Visual Artists* (2nd Ed.). Laurence King Publishing.

SEMESTER II

Title	Internal Assessment Marks	Semester End Examination	Total Marks	Total Hours	Credits
CAD CAM and Computer Technologies in Textile & Apparel Marketing Sectors (Theory)- IV	40	60	100	24	3
Computer Technologies in Textile and Apparel Marketing Sectors (Practical)- VII	40	60	100	24	3
Computer Technologies in Textile and Apparel Marketing Sectors (Practical)- VIII	40	60	100	24	3

Title of the Course	Total Hours	Marks allotted	Credits for the Course
CAD CAM and Computer Technologies in Textile & Apparel Marketing Sectors (Theory)- IV	**24**	**100**	**3**

Objectives

1. To introduce Computer Technologies used in Marketing of Textile, Woven & Knitted fabrics and / visits to industries / organizations.
2. To introduce Computer Technologies used in Retail and other sectors of Apparel Industry using software's and / visits to industries/organizations

Unit	Course Content	Hours
I	Understanding computer aided production process	08
II	Fashion forecasting to predict trends and directions in fashion	08
III	Mood board, theme board and colour forecast	08

Learners to make presentations/assignments on selected topics which will be marked

References:

- Brannon, E. L. (2005). *Fashion Forecasting* (3rd ed.). New York: Fairchild Publications.
- Regan, C. L. (2008). *Apparel Product Design & Merchandising Strategies. Upper Saddle River.* New Jersey: Pearson Prentice Hall.
- Hethorn, J., &Ulasewicz, C. (2008). *Sustainable Fashion: Why Now?* New York: Fairchild Publications.

Title of the Course	Total Hours	Marks allotted	Credits for the Course
Computer Technologies in Textile and Apparel Marketing Sectors (Practical)- VII	**24**	**100**	**3**

Objectives

1. To introduce Computer Technologies used in Textile, Woven & Knitted fabrics and / visits to industries / organizations.
2. To introduce Computer Technologies used in Retail and other sectors of Apparel Industry using software's and / visits to industries/organizations

Unit	Course Content	Hours
I	Fashion forecasting Creating Mood board, theme board Color Forecast	08
II	Creating Digital Prints Using Brushes Outputs	08
III	Portfolio Development- professional approach to design presentation, use designs for commercial proposes	08

Learners to make portfolios/assignments of practical work done which will be marked

- Visit to computerized quality control units
- Visit to textile industries and craft centres
- Visit to a fashion and apparel industry
- Internship in design house and apparel

References:

- Brannon, E. L. (2005). *Fashion Forecasting* (3rd ed.). New York: Fairchild Publications.
- Hethorn, J., & Ulasewicz, C. (2008). *Sustainable Fashion: Why Now?* New York: Fairchild Publications.
- Mendes, V.D. & Hinchliffe, F. (1987). *Ascher: Fabric, Art, Fashion*, V&A Publishing.
- Regan, C. L. (2008). *Apparel Product Design & Merchandising Strategies. Upper Saddle River.* New Jersey: Pearson Prentice Hall.
- Wilson, E. (2003). *Adorned in Dreams: Fashion and Modernity.* Rutgers University Press. New Brunswick.

Title of the Course	Total Hours	Marks allotted	Credits for the Course
Computer Technologies in Textile and Apparel Marketing Sectors (Practical)- VIII	**24**	**100**	**3**

Objectives

1. To introduce Computer Technologies used in Textile, Woven & Knitted fabrics and / visits to industries / organizations.
2. To introduce Computer Technologies used in Retail and other sectors of Apparel Industry using software's and / visits to industries/organizations.

Unit	Course Content	Hours
I	Application of 3D illustrations Creating and applying Textures	08
II	Combining different applications for outputs Creating boards	08
III	Internship / Industry based project / final range collection Develop range of different types of garments on specific theme through research and development	08

Learners to make portfolios/assignments of practical work done which will be marked

- Visit to computerized quality control units
- Visit to textile industries and craft centres
- Visit to a fashion and apparel industry
- Internship in design house and apparel

References:

- Adobe Illustrator 8.0 User Guide Paperback
- Clock. (2017). *Graphic Design CC.* Against the Clock, Inc.
- Eddy, S. (2002). *Adobe® Illustrator® 10: The Complete Reference.* McGraw hills.
- Faulkner, A. & Chavez, C. *Adobe Photoshop CC Classroom in a Book* (1st Ed.). Official Training Manual
- Hansen, H.N. (2019). *Learn in 7 days Adobe Illustrator.* Independently published.
- Hume, R. (2016). *Fashion and Textile Design with Photoshop and Illustrator: Professional Creative Practice.* Fairchild Books.
- Laskevitch, S. (2019). *Adobe InDesign CC: A Complete Course and Compendium of Features.* Rocky Nook.
- Lazear, S. (2011). *Adobe Illustrator for Fashion Design* (2nd Ed.). Pearson.
- Lazear, S. (2007). *Adobe Photoshop for Fashion Design*. Pearson.
- Schneider, R. (2013). *Adobe for fashion: illustrator cs6*. Lulu.com; Illustrated Edition.

Mode of assessment & evaluation for the course:

- Regular internal assignments and project work will be given by the concerned faculty and will have 40% weightage. It may include assignments, class tests, case studies or project work.
- The term end examination shall have 60% weightage and will be conducted by the concerned faculty.